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EAST INDIA (TEXTILE FACTORIES):

REPORT

OF THE

TEXTILE FACTORIES LABOUR COMMITTEE

Appointed by the Government of India, December, 1906,

TO ENQUIRE INTO THE CONDITIONS OF

FACTORY LABOUR IN INDIA,

WITH APPENDICES.

Presented to both Houses of Parliament by Command of His Majesty.

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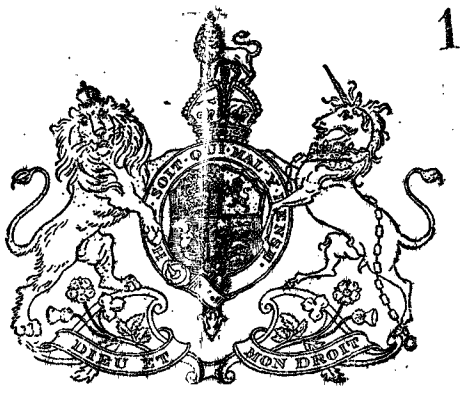

LONDON:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE,
By DARLING & SON, Ltd., 34-40, Bacon Street, E.

and to be purchased, either directly or through any Bookseller, from
WYMAN and SONS, Ltd., Fetter Lane, E.C.,
and 32, Abingdon Street, Westminster, S.W.;
or OLIVER & BOYD, Edinburgh;
or E. PONSONBY, 116, Grafton Street, Dublin.

1907.

[Cd. 3617.] *Price 9d.*

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REPORT OF THE TEXTILE FACTORIES LABOUR COMMITTEE

appointed to enquire into the conditions of Factory Labour in India by the Government of India on the recommendation of the Secretary of State for India under Resolution No. 9974-9993-13, Department of Commerce and Industry, "Factories," dated Calcutta, the 17th December 1906.

The Resolution reads as follows:—

"Acting on a suggestion made by His Majesty's Secretary of State for India, the Government of India have decided to appoint a small Committee to enquire into the conditions of factory labour in textile factories in this country. The investigation will be directed, in the first instance, towards ascertaining the actual conditions prevailing in India, and the observations of the Committee in this respect will supplement the reports recently received from Local Governments on the subject.

"2. The enquiries to be made by the Committee will be directed more particularly towards the settlement of the questions set forth in paragraph 3 below; but they may also put forward recommendations for the amendment of the existing law or practice, if they are of opinion that the present hours of work of operatives are excessive, that the conditions of factory labour are otherwise injurious or oppressive, or that abuses exist in connection with the employment of children or young persons. The Government of India desire that it should be clearly understood that the enquiry now to be held is preliminary only. Should the investigations of the Committee establish the existence of abuses which require to be remedied, a representative Commission will be appointed to consider the whole subject comprehensively before any radical changes in the present factory law are made.

"3. Subject to the provisions of paragraph 2 above, the specific points referred to the Committee are as follows:—

(1) Whether the working hours of adult males should be limited, and whether the physique of operatives is affected by long hours.

(2) Whether before children are allowed to work in factories certificates of age and fitness should be required.

(3) Whether the minimum age of children should be raised beyond nine.

(4) Whether, as the result of employment as adults of persons between the ages of twelve and fourteen, there has been physical deterioration requiring the creation by law of a special class of workers known as young persons.

(5) Whether a separate staff of Medical Factory Inspectors should be entertained.

"4. The Committee will consist of:—

Commander Sir H. P. FREER-SMITH, R.N., late Superintending Inspector for Dangerous Trades in England. — President.

Lieutenant-Colonel J. F. MACLAREN, M.B., I.M.S., Civil Surgeon, Allahabad.

Dr. J. A. TURNER, M.B., D.P.H., Health Officer, Bombay Municipality. — Members.

The Committee will assemble at Bombay on the 21st December, and it is anticipated that their report will be submitted to the Government of India in the beginning of April.

Supplementary to this Resolution it was suggested by the President of the Committee to the Government of India that the enquiry should be extended so

as to include the fencing of dangerous machinery and in answer to that suggestion the following reply was received :—

> "With reference to the Resolution issued by this Department, No. 9974-9993-13, dated 17th December 1906, on the subject of the Factory Labour Committee, I am desired to explain that, although the question of the fencing of dangerous machinery has not been expressly mentioned in the Resolution as one of the points requiring investigation it has been settled, in the telegraphic communication with the Secretary of State for India, that this matter will not be excluded from the scope of the Committee's enquiries.

General Remarks.

In the agreement entered into between the President and the Secretary of State for India it was stated that "he should proceed to India and report on the hours of work and conditions of labour in Indian Factories and such other matters connected therewith as the Government of India might direct;" his duties were not originally confined to Textile Factories, but it was subsequently decided that the scope of the enquiry should extend to Textile Factories only. The Indian Factories Act does not discriminate between Textile and non-Textile Factories, but a proposal made to the Government that the definition in the English Factory Act should serve as a guide was approved.

In a despatch addressed by Lord Cross to the Government of India, dated 15th May 1890, it was pointed out that in regard to any additional factory legislation in India, due regard must be had to the circumstances of the country which are in many respects different from those of any European nation. The difficulties appreciated then apply with equal force now, the constitution and habits of the Indian worker being entirely different to those of the European. On the other hand during the many years that have elapsed experience has been gained, the Indian workers are becoming more accustomed to mill life, and it is believed that, without imposing any restrictions that will be unduly felt, amendments might be introduced into the Factories Act which would secure uniformity in regard to administration in the various works throughout the country and add materially not only to the health and comfort of the workers, but also to others engaged and interested in textile trades in India.

It has been suggested in estimating the amount of work done by mill workers in India that comparison to be of any value should not be confined to the periods of employment worked by Europeans in their own country, but should extend as far as possible to other Eastern nations.

Unfortunately reliable statistics are difficult to obtain, but quotations from the few who have written on the subject will be referred to hereafter, and individual evidence given by mill managers with experience in China, and elsewhere will be quoted.

It was felt by the Committee that however efficient might be the administration or however well considered the laws relating to Factories, no real or permanent good would follow unless in many instances serious attention is paid to the homes and surroundings of the mill hands. Large numbers of workers from country districts are imported into manufacturing centres rendering the housing question extremely difficult for municipal and other authorities. It was thought that the homes of the workers should be visited and inspected, and this was rendered possible owing to the intimate local knowledge of, and the facilities placed at the disposal of the Committee by, one of the members.

Accompanied by Rao Bahadur Vithalrao Krishnaji Vandekar, President of the Committee (who submitted to Lord Curzon a memorial from the mill hands of Bombay, *see* proceedings of the Department of Commerce and Industry, "Factories," April 1906) and others, visits were made to "challs" occupied by workers in the vicinity of mills in the Parel District, Bombay.

The conditions can only be described as deplorable. After making allowance for the very limited space which will satisfy Indian workers and their families, the houses were distinctly overcrowded, dark, damp and ill ventilated. Admission of fresh air seemed a practical impossibility, for the dwellings were surrounded by narrow gullies for carrying off waste water and sullage. The offensive vapour from these gullies permeating the whole of the surrounding atmosphere.

The method of disposal of the excreta is the basket hand removal system so common to many parts of Bombay.

It is perfectly evident that these baskets are saturated with highly offensive excreta and this in conjunction with insanitary conditions mentioned must tend to lower the individual vitality of the worker. It was no astonishment for the Committee to see the mark fixed by the Health Department on a large proportion of the dwellings, showing that cases of cholera had occurred in them. Although not identical in all respects similar conditions were observed in other large manufacturing centres visited by the Committee. In many country districts where space, and land of less value is available, sanitary conditions are defective, but there is abundance of open area and fresh air to counteract in some measure any insanitary defects.

It must not be inferred that the said conditions described are universally found. The Committee desire with much satisfaction to point out what has been done and what can be done by individual effort and the measures taken or contemplated by public bodies.

In Bombay we learn that the Bombay Improvement Trust and the mill owners are carrying out schemes for the improvement of congested areas and provision of better dwellings for the working classes throughout the city.

It is realized by the Committee that the health and happiness not only of the vast number of the workers of Bombay but also of their children is so largely dependent upon the early execution of real and practicable schemes that they express a sincere desire that as little delay as possible may occur in giving effect to proposals now in contemplation.

Referring to individual efforts in various parts of India, arrangements not only for housing the workers but for in every way adding to their comfort were explained to and witnessed by the Committee. In many of the places referred to model villages are found in which all that can be conceived to secure health and comfort has been provided by owners of works at their own cost, the workers only paying a nominal rental. Detail in the body of this report would occupy too much space.

Summary of work done by the Committee.

The Committee assembled at Bombay on the 21st of December 1906 when the President reported himself to the Secretary to Government and subsequently with the other members looked over numerous papers bearing on the work to be undertaken.

From the 21st December 1906 to 20th January 1907 with the exception of 6 days spent in Ahmedabad, the members were actively engaged in visiting works in Bombay in collecting information of a general character and in taking evidence. On 7th January a formal meeting was held when an interview took place with the members of the Chamber of Commerce and the members of the Mill Owners' Association. It was then suggested that evidence of representative witnesses should be taken at a later date and points for consideration were submitted to them by the Committee. In Ahmedabad a large proportion of the mills were visited, evidence taken from the local Magistrate, the Official Inspector, Owners, Managers and groups of mill hands.

On the 20th January the Committee left Bombay for Calcutta arriving on the 22nd. Until 3rd February the time of the members was employed in conferences with mill owners, visiting works and in taking official and representative evidence.

On the 3rd February they proceeded to Madras arriving on the 5th and remaining till the 10th. Here all the mills in the city were visited and as elsewhere, officials, mill owners, managers and operatives were examined.

Returning to Calcutta on the 12th February more mills were inspected, the evidence of Civil Surgeons and Medical Inspectors taken, also that of the representative members of the Bengal Chamber of Commerce and the Jute Mills Association.

Leaving Calcutta on the 16th the Committee arrived at Delhi on the 18th, remaining till the 21st, then to Agra where 3 days were spent, then to Cawnpore arriving on the 24th where they remained for 4 days. At Delhi, Agra and Cawnpore all mills were inspected and as in other places the evidence of operatives, mill owners, managers and workers taken. At Cawnpore the Committee had a special meeting with the Upper India Chamber of Commerce when formal evidence was taken.

The Committee then travelled to Nagpur arriving there on the 1st March. In Nagpur all the Cotton Mills and Ginning Mills were visited, the usual evidence was taken and in addition an exhaustive written statement, very carefully prepared, was handed in by Mr. Bejonji Dadabhoy, the experienced Manager of the Empress Mills.

On March the 3rd the Committee left Nagpur arriving in Bombay on the morning of March the 4th. Several days were spent in taking formal and detailed evidence from witnesses suggested by the Bombay Mill Owners' Association. The time of the Committee otherwise was devoted to collecting general information to drawing up report and to conferences, seeing witnesses and special enquiries at works.

It was clearly understood from the beginning that the evidence taken would not be published. Reports, however, of all evidence taken have been printed and forwarded to the Government of India.

A list of witnesses appears in Appendix E.

The works visited by the Committee are mentioned in Appendix D.

Administration.

The question of efficient administration is one calling for serious consideration. Laws especially those relating to labour may if inefficiently administered do little good indeed, in many instances may do harm. Employers of labour are apt to consider that where there is State intervention they are relieved of their responsibility and that it is the duty of officials to see the law carried out.

In the first instance the Committee would say with the greatest confidence that no legislation with regard to the questions under consideration will fulfil the end in view if such legislation is of a permissive character.

Certain clauses in the Indian Factories Act on which depends the whole system of child labour in India are stated by the officials administering the Factory Laws to be of a permissive character.

The intention of Government can hardly be questioned; it was intended that children should not be employed in mills under the age of 9 years, that they should not work on full time, or otherwise as adults until the full age of 14 years was reached, and that efficient measures should have been taken by the management to fulfil these requirements.

The different methods and the different forms vary in the different parts of India. To this reference will be made hereafter. The following remarks which will illustrate the points for consideration relate to Bombay.

Rule 19 lays down that the occupier of every Factory should keep in form A a register of children; as a matter of fact this register is generally kept, but is used for a purpose other than was intended.

The certifying Surgeons in Bombay bracket together a large number of children, place their initials against these groups, stating against each name simply whether the child is over 9 years or under 14 years.

By the rules and orders No. 21 issued by the Government of Bombay every occupier is required to keep a register in a bound book, each page to be numbered and to contain certain particulars. On this form there are

concise and elaborate details relating to the children, there are columns to be signed by the certifying Surgeons, there are detailed instructions in regard to the certificates and what is to be done with them. Excepting at Ahmedabad and one Factory in Bombay these instructions have not been observed and might for all practical purposes have never been issued.

The Committee have borne in mind that although their reference has been confined to Textile Factories, there are large numbers of other industries employing women and children. The report of the Collector of Bombay shows that in the year 1904 there were in the Bombay Presidency 75 separate industries using steam power and within the scope of the Act. The numbers are likely to increase and in considering any system which may be drawn up with a view to securing uniformity of administration and efficient inspection it has been necessary to look ahead.

In the opinion of the Committee the administration at present in force leaves much room for improvement. Laws that are good for a Cotton Mill, a Flour Mill, an Iron Foundry, Engineering or other works, if good for Bombay or Calcutta, are equally good and equally called for, for similar works all over India, but as a matter of fact the rules made by different Governments differ in important details.

Inspection.

The System of Inspection also differs. For instance in Bombay City—Bombay being the most important manufacturing centre in India—the office of the Chief Inspector of Factories is held by the Assistant Collector. We find in the report of the working of the Indian Factories Act for the year 1905 that the post of Chief Inspector was held by six separate gentlemen. Each of these also held the office of Assistant Collector and was subject to the control of the Collector of Bombay. There is a 1st Inspector of Factories appointed by the Local Government, an Uncovenanted Civil Servant, who has not passed any special, technical or other examination and whose time is largely taken up by other duties (excise, &c.).

There is a Joint Medical Inspector Personal Assistant to the Surgeon General, and there are 3 Presidency Surgeons ex-officio Certifying Factory Surgeons. In the Presidency, Inspections are carried out by the Collector and District Magistrate assisted by the Assistant or Deputy Collector and the Special Presidency Inspector, an Uncovenanted Civil Servant.

In Calcutta the Special Inspector of Factories reports to the Commissioner of Police and appears to be directly subordinate to him. In Madras both the Special and the Medical Inspectors report to the Sanitary Engineer to Government, while outside the Presidency town the work of inspection falls to various officials including Civil Servants, both European and Indian. In the Punjab the inspection is done by the Deputy Commissioner or by some one deputed by him. In the United Provinces inspections are carried on by Civil Surgeons, District Officers and by the Special Inspector of Factories from Calcutta. In the Central Provinces such work is done by Deputy Commissioners, Civil Surgeons and the Special Inspector of Factories of the Bombay Presidency.

Bearing in mind the ever growing importance of Factory legislation in India due to the rapid growth of industrial occupations and the absolute necessity for uniformity in Administration, the Committee would submit that the working of the Factories Act should be primarily under one official under the Department of Commerce and Industry, that for purposes of inspection, carefully considered districts should be placed in charge of competent inspectors recruited perhaps from the ranks of English Factory Inspectors with a thorough knowledge of the many and varied duties to be performed by an official exercising supervision over a large number of separate and distinct industries, or failing this, applicants for Factory Inspectorships, if entertained in India, should be required to pass a strict qualifying examination, and in order to obtain a general knowledge of their duties they should be sent to work for a given period under an experienced Inspector in some large industrial centre in Great Britain.

Whether a separate staff of Medical Inspectors should be appointed.

The point referred to the Committee as to whether a separate staff of Medical Inspectors should be appointed has been very carefully considered. On the desirability of making such appointments the members of the Committee are quite agreed.

They are of opinion that a number of Medical Officers should be assigned to separate areas, these to depend on the number of works and the facilities for reaching them and that their whole time should be devoted to the work of Factory Inspection.)

They are of opinion that, subject to the Department of Commerce and Industry on all medical questions they should be the supreme authority. The Committee would not advise that the Special Factory Inspectors be relieved from duties relating to Sanitary matters but on these points should take their instructions from the Medical Inspectors and refer to them on all doubtful points.

Suggested duties for Medical Inspectors.

Some of the duties to be assigned to the Medical Inspectors may be enumerated as follows, attention to—

(1) Water-supply.
(2) Ventilation including the carrying off of dust and noxious fumes. When mechanical appliances are required arrangements should be made in conjunction with the Special Inspectors.
(3) The purity of air and amount of Humidity.
(4) Temperature.
(5) Cubic space.
(6) Cleanliness and Lime-washing.
(7) The Drainage of Floors.
(8) Sanitary Accommodation.
(9) Investigation and reports on accidents in conjunction with Special Factory Inspectors.
(10) Diseases of occupation such as Anthrax, Lead—Arsenic and Phosphorus poisoning—Disease of Respiratory Organs, &c., and also
(11) To satisfy themselves that women and children are physically fit for the work they are called upon to perform.

In making the above recommendations the Committee have not forgotten that many of the duties now suggested are already performed by Civil Surgeons holding the office of Medical Inspectors. They are however satisfied that owing to the many and important duties that Civil Surgeons are called upon to perform they cannot devote the time required for the efficient Medical Inspection of Factories. In many cases the Civil Surgeon is necessarily the Medical attendant to the Mill and in all probability his wishes would be best consulted were he relieved from making official inspections in places where owners, managers and workers are under his medical care.

The Committee wish to make it clear that in their opinion the work of Medical Inspection should be performed by specially appointed Medical Officers, who should devote their whole time to the work and that this work should be confined solely to them except the duties now performed by Certifying Factory Surgeons.

In submitting the above proposals the Committee remember that Executive officers are responsible for the administration of laws and should control the officials under the different Governments appointed to administer these laws. It might be desirable that the Medical Inspectors should be immediately subordinate to the Local Government, but exercising supreme control over all other Inspectors. The Medical Inspector for Bengal might also act as Technical Adviser to the Department of Commerce and Industry. If, however, the Medical Inspectors are called upon to perform these duties and advise generally on technical matters in Factories, it is suggested that prior to appointment they should be given opportunities for technical study in works in Great Britain and perhaps on the Continent.

The Committee however desire to point out that the Supreme Government (the Department of Commerce and Industry) should at all times be able to command the opinion of an expert, skilled in Factory law and Factory administration and that they should not have to depend on the advice of officials however capable in other matters but who from time to time are removable and have many and other responsible duties to perform.

Certificates of Age and Physical Fitness.

I.—Age.—In the opinion of the Committee the present law relating to certificates of age calls for drastic and immediate reform. The intention of the Factory Act is to protect children from over-work, and further that children should not be classed and worked as adults before they have attained the prescribed age of 14 years laid down by law.

The procuring of these certificates is apparently, as the law stands, purely permissive. In some works they are procured, in others they are not. Some occupiers profess to obtain age certificates but they are asked for at uncertain times. It having frequently come to the notice of the Committee that in mills where hundreds of children are employed, and where nominally certificates of age were procured, that there had been no visit from the Certifying Surgeons for periods varying from several to eighteen months, nor had the children been sent to the Surgeon.

It was the evident intention of Government that these certificates should be procured and special forms were drawn up with detailed and full instructions as to how they should be filled in and what use should be made of them, but as has been before stated, in many parts of India, the forms have not been used and might as well never have been drawn up.

In the opinion of the Committee the law should require that no child under the age of 14 years "*shall*" be employed in a factory until he produces a certificate of age from the Certifying Factory Surgeon; a duplicate copy of the certificate to be retained by the employer and a register kept in the prescribed form which should contain all the particulars of the certificate.

The original certificate to be the property of the child, carried by him when at work and produced when required by the Factory Inspector or other person authorized to require its production.

Should a child employed in a factory resign or be discharged, an endorsement to that effect by the Manager should be made on the original certificate, giving the date, a similar endorsement should be made in the duplicate and register.

On applying for employment in the same or other factory, it will be sufficient proof if the child produces the original certificate, endorsed by the late employer. Failing this, a fresh examination of the child will be necessary and a fresh certificate given.

In support of the recommendations here made, and to meet objections likely to be raised to the effect that a personal certificate will become a marketable commodity and risks of personation increased, the Committee desire to lay particular emphasis on their personal experience in Ahmedabad. Here the form of certificate adopted is that laid down under rule and order 21 made by the Bombay Government on 22nd June 1892. A space, however, has been added for "personal marks." In going through the several factories in Ahmedabad there was absolutely no difficulty in identifying the children. A duplicate of the certificate kept in the office was carried in a small tin receptacle and worn by the child when at work.

Walking through the mills the members of the Committee called large numbers of children who at once produced their certificates, and, by the personal marks stated, identification was easy. In some instances the marks stated on the certificates were not found on the worker. These workers were sent to the office, and subsequent investigation showed that certain children living in the same house had inadvertently taken the case belonging to another child.

It is strongly urged that the insertion of personal marks on the certificate should be a legal requirement and that the age should as far as possible be approximately stated, and it is thought that in addition to this a thumb-mark impression should be taken. The difficulties of identification by thumb-mark are not forgotten, and it is realized that in many instances a skilled expert would be required to identify the thumb-mark, should legal proceedings be contemplated, but such proceedings would be extremely rare, and it is thought that the moral effect of a thumb-mark would be great and a deterrent against trafficking in the certificate.

The cost and trouble of requiring such a mark would be practically nil.

A copy of the proposed form of certificate is given below :–

(Duplicate.)

FACTORY_____

I_____being a duly appointed Certifying Surgeon under the Indian Factories Acts, 1881 and 1891, hereby declare that I have personally examined the person hereinbelow described and believe $\frac{\text{him}}{\text{her}}$ to be of the approximate age of_____years and that $\frac{\text{he}}{\text{she}}$ is not incapacitated by disease or bodily infirmity for working daily the time allowed by law for (1) a child, or (2) an adult, in any factory under the above Acts.

1	2	3	4	5	6	7	8	9	10
Number.	Date.	Name and Father's Name.	Religion.	Caste.	Residence.	Factory.	Approximate Age.	Employment.	Personal Marks.

Left thumb impression.

(Sd.) Certifying Surgeon.

(See back.)

(Back of Certificate.)

(Duplicate.)

Date on which Certificate No._____belonging to_____was received by the management of_____works.

Date.	Signature.
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

(Original.)

FACTORY_____

I_____being a duly appointed Certifying Surgeon under the Indian Factories Acts, 1881 and 1891, hereby declare that I have personally examined the person hereinbelow described and believe $\frac{\text{him}}{\text{her}}$ to be of the approximate age of_____years and that $\frac{\text{he}}{\text{she}}$ is not incapacitated by disease or bodily infirmity for working daily the time allowed by law for (1) a child, or (2) an adult, in any factory under the above Acts.

1	2	3	4	5	6	7	8	9	10
Number.	Date.	Name and Father's Name.	Religion.	Caste.	Residence.	Factory.	Approximate Age.	Employment.	Personal Marks.

Left thumb impression.

(Sd.) Certifying Surgeon.

(See back.)

(Back of Certificate.)

(Original.)

Date on which Certificate No._____belonging to_____was returned by the management of_____works.

Date.	Signature.
1	
2	
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12	

Under section 3, paragraph (2) of the Government of India resolution of December 17th, 1906, a report is called for as to whether, before children are allowed to work in factories, certificates of age and physical fitness should be required. The views of the Committee in regard to age certificates have been stated. An equally important question, namely, whether certificates of physical fitness for employment should be required has engaged their serious attention. It will, of course, be remembered that from the very earliest days of factory legislation affecting the United Kingdom, this certificate has been required, and presumably, if valueless, the united influence and intelligence of the manufacturers of Great Britain would have been sufficiently powerful to secure the repeal of a useless and unnecessary requirement. In England the exact age of candidates for employment can without difficulty be ascertained. In India this is impossible, a fact pointing to the necessity for physical condition being considered and stated in addition to a merely speculative statement in regard to age. The arguments adduced by many manufacturers, whose opinions are worthy of careful consideration, have not been forgotten.

It is urged by them that it would be contrary to their interest to employ weakly children, but personal supervision on the part of the management in regard to matters of detail of this kind is difficult, if not impossible. They must to some extent depend upon subordinates who will be tempted to engage the willing child even if physically unfit. It has also been urged that a child physically fit to-day may be utterly unfit after a limited period following examination. This argument applies to every walk in life, but a medical examination would at any rate discover constitutional or other defects rendering the child unfit for mill labour. The direct reference appears to be confined to whether a certificate should be required for children *before* employment, but the Committee is empowered to put forward recommendations for the amendment of the existing law or practice. In their opinion serious abuses exist and have for long existed in regard to employment on full time of so-called adults professing to be 14 years of age, but in reality one or two or even three years below that age. It is common to find children certified as being over 9 in one year employed within a period of say 12 months on full time. The proof other than the evidence of one's observation is difficult to obtain, conviction in Court almost impossible, for the offence, as stated would have to be for employment of a child below a certain age, evidence would have to be produced on both sides, and as has frequently been the case, there would be a direct conflict of opinion. Could an information be laid for employment without a certificate from the duly appointed Certifying Surgeons, who should be the authority, all this would cease. Difficult as it is to obtain direct evidence in regard to age, the Committee have been able through one of their members, and after much trouble in searching records relating to mill children, to establish that the age as stated for employment in the mill was incorrect in at least ten cases. This was rendered possible by the fact that in Bombay a system of birth registration has been in force for a number of years. But a large proportion of mill children are born out of Bombay.

Within the last few years this system of birth registration has been elaborated and rendered more perfect, so that in a few years it will be possible for every child born or vaccinated in Bombay to produce some documentary evidence of his age to the Certifying Surgeon, and there appears no reason why this documentary evidence should not be procurable in the future in other large centres of industry throughout the country.

Measures to prevent the abuses described appear to be certainly called for. The one most likely to be efficacious is probably a requirement that *before employment on full time* a medical certificate of age and fitness should be required. Difficulties will doubtless be suggested, but these are not insuperable. It will be said, when an occupier has failed to obtain this certificate, that the person employed represented himself or herself to be above 14 years of age. To meet such objections a *wide* limit will have to be allowed, and it is suggested that the names of all persons under 16 should be registered. Further reference in regard to this suggestion will be found under the heading of "Young Persons."

Minimum age for Employment of Children.

By the Indian Factories Act of 1891 (XI of 1891) it was laid down that no child shall be employed in any factory if he is under the age of nine years and it is submitted for the consideration of the Committee by Government Resolution whether the minimum then fixed should now be raised beyond nine years.

This question has been considered from every point of view and due weight has been given to the evidence of competent witnesses. Were there educational facilities for school attendance throughout the country, the Committee would not have any hesitation in suggesting that the limit of age for employment of children should be raised, but as this is not the case, they have to consider whether any kindness would be done to the children by preventing them from working at the age of nine in well ordered factories. If so prevented, it is feared that many of these children would be employed in places not under the Factories Act where the conditions of labour are much worse, or they might be employed in much more exhausting work in general labour, or if unemployed, they would possibly be idling in the Bazaars instead of honestly earning a small sum towards the family expenses.

Education of half time children.

It has been noticed with great satisfaction in many mills throughout *India* that schools on the mill premises have been provided by employers. Witnesses having a wide knowledge of mill life in India, and the habits of the workers, have strongly urged that the law should require the provision of a competent elementary teacher and suitable accommodation for educational purposes on the mill premises. It was pointed out that the expense would be very little—about Rs. 15 to Rs. 20 per mensem—It is submitted that this proposal should receive careful consideration. Should such a system be adopted it would seem desirable at a later stage, that the minimum age for employment should be raised.

Systems of employment of children.

It may be well perhaps at this stage to refer to the systems, or in some cases to want of system, under which children are employed in Factories. Different methods are in force in different parts of the country. In some mills the children are divided into two sets, one set working beforenoon, the other in the afternoon. Sometimes the sets are changed weekly, but this practice is by no means universal. In other mills one set works from 6 A.M. to 9-30 A.M. and again from 1 P.M. to 3-30 P.M. and the 2nd set from 9-30 A.M. to 12-30 P.M. and again from 3-30 P.M. to 6 P.M.; in the interval children are attending the mill school. With slight variations this latter system is found throughout India. In some mills no system of any kind is adopted, the children coming in the morning when the mill starts, and leaving in the evening when the mill stops; they remain on the premises during the day, the over-lookers arrange when they shall work and when they shall not work, and profess to exercise supervision which will prevent any child from exceeding the seven hours of work allowed by law.

It is obvious that great irregularities must exist in such mills. In one very large mill in which nearly 400 children were employed, the European Manager assured the Committee that there was no such thing as half-time employment in any mill, nor did he know of a Factory Act restricting child labour in this way. Another European Manager at this mill disagreed and said that the work was carried on in shifts, but he admitted that when there was pressure, work would continue beyond the specified period, that there was a disregard for these shifts, and there was nothing to prevent children in the first shift from also working in the second. The first Manager wrote to the Committee afterwards and said that on further enquiry he found that the children did work in shifts.

It is strongly urged that the law shall require that children shall only be employed on some recognized system, that precautions shall be taken to prevent children working in one shift from being employed in another, and probably this would be secured by adopting the recommendations made by the Bombay Government, General Department, which appeared in the *Government Gazette* dated December 6th, 1906 (Part I), page 1802. (See Appendix H.)

Employment of Women.

So far as the day employment of women is concerned, from personal observation in large numbers of works, and after consulting many authorities, the Committee are satisfied that amendments or alterations in the present law are uncalled for.

Women are chiefly employed as "reelers" and "winders," the rooms in which they work are speaking generally lofty, clean, and well ventilated, the work is of suitable character, they are paid by piece-work, and in many instances by their wish do not work the full time allowed by law—In short the lot of the women employed by day in mills is far superior to that of women workers generally engaged in other classes of work in India.

Employment of women by night.

The employment of women by *night* however must be considered from a different point of view. By Section 6 of the Indian Factories Act, where a system of shifts approved by the Local Inspector is in force the employment of women at night is allowed. As a matter of fact however it is quite exceptional to find that in ordinary Textile Factories women are employed at night. The numerous witnesses examined by the Committee, in works and elsewhere, appear to be decidedly opposed to such labour, and this view is supported by the Committee.

Where women are employed at night, one of two things will happen, either they will take with them to the works, young infants and children who should be in their homes, or the children will be left at home, generally speaking uncared for. The atmosphere of a mill, especially at night, where artificial lighting must be used is bad both for women and children. In the case of a woman such work will probably in the long run injure her own health and that of her future offspring. Her home will be neglected, and she will frequently be called upon to work on household duties in the day after working a whole night in the mill. It is believed that, although temporary inconvenience might follow the prohibition of night work by women, chiefly in Ginning Mills, this would not be felt were reasonable time allowed for occupiers to make other arrangements.

There are, as has been stated, over 1,000 Ginning Mills in India; in a very large proportion of which the health of women is being injured by night work. This is a serious question calling for serious attention. It will of course be urged that work continues for only a few months of the year varying from 3 to 5 months, that the supply of cotton comes at irregular times, and that delay in the manipulation, may lead to serious loss, but against this, it must be remembered that a boy aged fourteen can work as an adult, and by gradually making arrangements for the work to be done at night by male adults, the inconvenience could be greatly lessened if not entirely removed.

The Committee understand that the consideration of the question of employment of women at night, has on the suggestion of the Berne Conference been submitted to the Government of India so this seems an opportune time for recording the views here expressed.

Presence of infants and young children in works.

Reference has here been made to the fact that women bring young children to the works with them. This practice is by no means confined to Ginning Mills, but is found in nearly all departments in which women are employed in Textile Factories throughout India. To absolutely prohibit this custom, might keep large numbers of women out of the works and thus prevent them from earning a livelihood. On the other hand, it appears that by suitable administrative regulations, infants and young children could be kept away from the running machinery, from rooms in which the inhalation of dust, and impure vapours, is likely to injure their health, and doubtless after consideration, suitable regulations could be drawn up.

Adult male Labour.

Whether the working hours of adult males should be limited, and whether the physique of operatives is affected by long hours, are questions which perhaps

should be separately considered. On no point relating to Factory Law has the public mind been more exercised than on the question whether restrictions should be placed on the hours of adult males by legislation. Authorities holding high official offices, employers of labour, and representatives of different schools of thought have in emphatic terms expressed their views. Under these circumstances much and careful consideration has been given before arriving at the conclusions now submitted. The Committee would prefer not to draw comparisons between mills in Lancashire, and mills in India, but unhappily such comparisons have been made, and will be made, when this report is under criticism.

Furthermore comparison is to some extent necessary, as in arriving at conclusions in regard to what can be fixed as a reasonable limit of endurance for male adults, one has to consider the conditions under which they work, the amount of physical strain suffered, and the relative production resulting from their labour.

Temperatures in English and Indian mills compared.

It has been frequently pointed out that the Indian workman is employed in rooms in which excessive temperatures prevail, that his hours of work are greatly in excess of those of men in mills in the United Kingdom, but against this it must be remembered that temperatures which are excessive to the European are borne with comfort by the Indian worker and also that when the tables of temperature and humidity to be found in Appendix A of this report are considered, it will be seen that in many of the best regulated mills, efficient means for cooling the air, are taken and that except for the hottest weeks of the year, the temperature is probably not of a kind that would cause ill health or serious discomfort to the Indian worker.

In English Mills, especially where fine counts are spun, excessive temperatures are certainly not unknown, and the discomfort to the workers must be far greater than that caused to his Indian colleague. The tables in Appendix A of this report will show that the English worker especially in winter is daily subject to great variations of temperature. In the spinning rooms where he spends the better portion of the day, excessive temperatures sometimes approaching 100° Fah. are found, the outside temperature in winter being often at or below freezing point, but at all times, very far below the temperature of the spinning rooms. In India inside and outside temperatures vary only to a very limited extent.

Comparisons relating to number of workers on each machine in England and India.

Comparisons must also be made between the numbers of workers employed on each class of machine. From various reliable sources tables relating to India have been procured. These will be found in Appendix B and also similar information relating to Cotton Mills in Lancashire supplied by His Majesty's Inspector Mr. Lewis, and to Jute Mills in Dundee by His Majesty's Inspector Mr. Buchan.

Habits of Indian Workers.

No legislation can alter the nature and ingrained habits of Indian workers. They have been in the habit of leaving their work at odd and uncertain periods throughout the nominal working hours. They go into the mill compounds which generally speaking are large and open for taking food, smoking, bathing, drinking water, and necessary purposes.

In some mills efforts have been made but with only limited success to stop, or at any rate curtail these practices. The men as a matter of fact, within reasonable limits, prefer to have these short periods of relaxation when they want them, instead of longer and fixed periods for meals with the requirement that all the work done by them, must be within a more restricted period.

Unlike the English the Indian mill hand takes frequent unauthorised holidays and in some districts it is the common custom for them to give up their mill work altogether for periods varying from 1 to 3 months when they return to their homes, frequently situated in country districts a long distance from the works.

It need hardly be pointed out, that alleged trade jealousies have been excluded from the minds of the members of the Committee. The conclusions they submit are based upon what they believe to be best alike for employers and employed. By many it has been urged that restrictions on adult male labour are in England unknown, but it must not be forgotten that by many, such restrictions are strongly advocated and the eight hours' movement has many powerful and influential supporters.

In India much of the work, notably in the weaving sheds, is performed by men, whereas in the United Kingdom, the work is done chiefly by women whose hours are restricted. The introduction of the electric light in Indian mills has led to excessive hours of running. The machinery in certain mills is in motion from about 5 a.m. to 9 p.m., in others the hours of running are less, but in busy times they would be increased. Amongst the thinking and moderate class of manufacturers these hours are recognized as a serious evil. Many meetings have been held, many resolutions arrived at, many voluntary efforts attempted to bring about an understanding, which would whilst securing for the operative reasonable hours, also secure for the employer protection from undue competition and its attendant discomforts and worries. These efforts have failed.

Opinions of adult male operatives.

To the best of their ability the Committee have ascertained the views of the adult male operatives themselves. They have, as will be seen from the minutes of proceedings, evidence taken and forwarded for reference to Government endeavoured to ascertain the views of these men not only in their works but also in their homes and in situations away from their works where they had ample opportunities of freely expressing themselves.

Largely signed petitions have been received which may or may not be genuine, but measures were taken to settle this point with the aid of native experts, and the impression formed is that they are genuine. After careful thought the Committee have come to the conclusion that the workers themselves would welcome a legal limitation on the hours of their work. It was fully explained to them that this might mean reduction of wages, but this generally speaking did not shake them in their desire for shorter hours.

Alleged effects of working by the electric light.

The majority of adult operatives object strongly to the electric light alleging, rightly or wrongly, that it affects their eye-sight, and gives them headache.

Many recognized authorities on mill labour in India are strongly opposed to any interference with adult male labour, but in the mills owned by these gentlemen the hours of work will be found to be less than those submitted by the Committee.

The Committee feel satisfied that without legislative interference an understanding will never be arrived at, that excessive hours will be worked and that in exceptionally busy times serious abuses greater than exist at present will creep in. After making due allowance for the numbers of workers employed in Indian mills as compared with those in England after bearing in mind the habits of the people and the irregular periods for rest which they will insist upon the Committee are of opinion that trade will not be restricted by a requirement that the period of employment in Indian mills, except those working on the shift system should be fixed either between the hours of 5.30 a.m. and 6 p.m. or 6 a.m. and 6.30 p.m.; that the engine should cease for half an hour between the hours of 12 noon and 2 p.m.; that in mills working by day on the shift system, the period of employment should as at present be between 5 a.m. and 8 p.m. provided that the actual period of employment for adult males shall never in any one day exceed 12 hours and that efficient means be taken to ensure that this restriction is duly observed.

Suggested restrictions on hours of work of adult males.

It will doubtless be urged by some that the 72 hours now proposed per week in Indian mills is by far too generous when compared with the 55½ hours allowed in English mills but to those who have carefully studied the question and read this report it will be realized that there are sound reasons for the suggestions made.

Remarks on labour in Textile Factories in Eastern Countries.

Attempts have been made by the Committee to obtain reliable information in regard to the hours worked by Adult Males in Eastern Countries. On November 11th, 1906, the President addressed a letter to the Under Secretary of State for India asking if from the Japanese Embassy any printed public documents relating to State regulations of mills in Japan could be procured.

The following papers from the Board of Trade were sent:—(See Appendix C.)

(*A*) "Classification of work-people by age and sex, being a quotation from 'Japan in the beginning of the 20th century published by the Imperial Japanese Commission to the Louisiania Purchase Exhibition in 1904.'"

(*B*) "*Average daily wages.*—Extracted from the 'Financial and Economical Annual of Japan' issued by the Japanese Department of Finance."

(*C*) "Working hours in Japanese Factories" and in addition the Trade of Consular District of Kobe for the year 1905.

(*A*) shows broadly that the greater part of the Operatives in Textile Factories are females between the ages of 16 and 22 years, the number of those from 22 to 30 years coming next.

(*B*) Average daily wages are given showing that 40 per cent. of the Operatives are on time wages and 60 per cent. on piece wages.

(*C*) states that in Cotton Mills, 12 hours are the standard for both day and night workers—they being made to take day and night work by turns every 2 days.

In "Filatures" the regulation hours are 13 to 14—Power Loom Factories 12.

Page 29 of the Consular Report for the District of Kobe says under the heading of 'Industries': "It is not improbable that in Japan sooner or later, like elsewhere, the labour question will have to be dealt with by legislation." It also says: "To the casual enquirer the most urgent reform would appear to be in the direction of shortening the working hours, but this doubtless is a matter which will adjust itself."

Under the heading of the Japanese Cotton Mills which appeared in the *Pioneer* of January 17th, 1907, Mr. W. A. Graham Clark gives much useful and instructive information in regard to the Labour question and the general condition of Japanese Mills. He states that during the last 6 months, 81 out of 85 mills ran both day and night averaging over 22 hours a day, but although probably implied it is not stated that the workers are employed in shifts.

He points out that the operatives have resorted to strikes and other means to secure higher wages and shorten hours of labour. He adds that the present long hours are very oppressive, especially to employees, most of whom are girls. While doubtless there is much to learn from Japan it can hardly be urged that the system of mill labour existing in that country could with advantage be copied in India.

An experienced Mill Manager, who had spent many years in Brazil and China, states that in the latter country Adult Males where he was engaged worked for 24 hours in 2 shifts, including a stoppage of 1 hour in each 12 hours' shift. His opinion was that this system did not pay, that he often found many of the operatives asleep at night, and some of the machines not running. He also stated that at one period of his career, he managed a large mill in Brazil in which there were 40,000 ring spindles and 1,226 looms, where the hours were 12 hours per day with half an hour's rest.

Physique of Operatives.

Passing to the second portion of reference 3 (1), *viz.*, whether the physique of operatives is affected by long hours, the Committee examined Medical Inspectors at nearly every place visited. They almost all expressed the opinion that sufficient evidence was not forthcoming to make definite statements, but two were of opinion, as far as they could judge from casual observation, that no

"deterioration from long hours was seen," while one said that "all workers suffered in health," although he had no evidence to give, to support his statement. The Health Officer of Calcutta could furnish no statistics relating to the health of mill operatives.

Opportunities were taken to examine mill workers themselves as to the effect of mill labour on their health, but their replies were of a contradictory and unreliable character. In Bombay some labour statistics are available but only for the past 6 years, and from them it is gathered that the mean Death Rate from Phthisis per 1,000 of the population of mill hands is much the same as that of the general labourer (see Appendix G).

In 1884 a Medical Commission, appointed by Government to enquire into the health of mill operatives in the City of Bombay, concluded that the operatives in the said mills did not exhibit any material deterioration in health or condition. Their opinions were formed after closely examining and ascertaining the height and weight of 265 male mill operatives. The time at the disposal of the Committee has rendered it quite impossible for an enquiry of this kind. Since 1884 the number of mills has largely increased, many more operatives are employed and some have been employed for many years. Without facts to support their opinion, it is felt by the Committee that although they may draw inferences, they can hardly express definite opinions. It may be thought desirable to make further enquiry on properly laid down lines, and this enquiry should embrace the Textile Industry wherever situated in India.

"Particulars" of Work and Wages.

The attention of the Committee was called in the early part of their inquiry to differences between employers and employed which had led to a strike in one mill. By the operatives—piece-workers—it was asserted that they did not receive the full amount of wages for the work done.

Section 116 of the English Factory Act lays down very precise regulations "for the purpose of enabling each worker who is paid by the piece to compute the total amount of wages payable to him in respect to his work."

In one or two mills visited, the methods laid down by this section were in force, but in all others the wages to be paid were calculated on a different basis, namely, by the weight of cloth produced, bearing in mind particulars relating to width of cloth, reed, number of picks, length, twist weft, amount of size, or in the case of Drawing, Slubbing, Intermediate and Roving Frame Tenters, per 1,000 lbs. or per hank. Prices varying according to the reed or count, Frame jobbers by the weight.

At the various mills visited and when taking evidence, it appeared that the methods adopted are satisfactory to the workers.

The requirements of section 116 of the English Factory Act are complicated, and it has been found necessary to appoint Special Inspectors known as Inspectors of Particulars to decide upon the very complex questions that arise. Unless hereafter the systems in force in India are questioned or lead to serious dispute, it does not appear to the Committee that special legislation on this point is called for in Indian Mills.

Remarks on proposals for the creation of a new class of workers to be known as Young Persons.

Section 3, paragraph (4), of this reference directs enquiry as to whether as the result of employment as adults of persons between the ages of 12 and 14 years of age, there has been physical deterioration requiring the creation by law of a Special Class of Workers known as "Young Persons."

The reference appears to assume that children at the age of 12 years *have* been employed as adults. On this point considerable attention has been paid by the Committee. In a large proportion of the Mills visited, groups of boys and girls were examined either in the compound or in the offices of the mills and also in their own homes. Schools were also visited, the management stating the age of the children as entered on the books of the school register.

By this means it was possible to draw some comparison in the physical condition and development of children alleged to be a certain age on the school books, and those alleged to be of similar age but employed in mills.

The children or young adults were examined in regard to their general physical appearance and it was ascertained whether they had been certified by the Certifying Surgeon for half or for full time. It was constantly noticed that children certified on certain dates as being over 9 years were within a period of about 12 months certified as being above 14 years. It is not suggested that the conclusions arrived at by the Surgeon were inaccurate, but it is suggested that the latitude and elasticity in this method of certifying children is very wide. It is thought that better results would be obtained were the approximate age stated, as is done in many parts of India.

Employment of children on full time before they have attained the age of fourteen years.

The impression formed on the minds of the Committee was that a large number of children are employed as adults long before they have attained the age of 14 years; many by being put to work without any certificate stating that they are above 14 years, others by misrepresentation or personation have obtained certificates. This is in many instances rendered possible by the fact that the children are sent to certain places away from the Mill for examination. It is said that an official from the mill accompanies them, but this is not always done and sometimes the so called official is the person who has often with difficulty to obtain juvenile labour. It was felt that opinions on this question would be of much greater value could they be supported by direct evidence. In Bombay for 6 years special attention has been given to the birth registration of various class of labourers and thanks to the assistance rendered by the Officers of the Health Department, the names of over two hundred juvenile mill workers were taken and diligent search at considerable trouble was made in the records; in ten cases only however could the definite age be established.

In the opinion of the Committee persons who have been illegally employed have worked beyond their strength and their growth and development has consequently been stunted.

Whether a special class of workers to be known as "young persons" should be created, has been considered from many points of view. Many and experienced witnesses have been examined, the practically unanimous opinion being that, recognizing the difficulty of classification in regard to the age of mill workers, the creation of such a class would cause serious, if not insuperable, administrative difficulties. By some however it has been urged that these administrative difficulties would cease were a class of young persons created whose hours of work should be restricted up to the age of 18 years. It has further been suggested that, if the work of persons under the age of 18 years was restricted by law, in practice, that of male adults would be automatically restricted, as when the young persons left the mill it would not pay to run the Machinery, and that thus the alleged overwork of male adults would be stopped.

It is however feared that in busy times, adults might be employed during the night and furthermore that adults who have worked a whole day would frequently work all night in another mill in which wages are paid daily thus securing money for immediate wants, and that these men would absent themselves from work during the succeeding day or days.

After much thought the conclusions arrived at by the Committee are that the creation of a separate class of young persons would create serious administrative difficulties without attaining the object suggested in the reference. They prefer to place restrictions—within reasonable limits—on adult male labour and to allow all adult males to work the full time allowed by law. It should perhaps be here explained that in making a suggestion that there should be a physical examination prior to employment on full time, that the Committee recommends that all persons under the age of 16 years should be registered. By this it is not in any way intended that the hours of work should be restricted or they should be classed as "young persons," the object in view being to secure that

all persons who are of the approximate age of 14 years should be examined and certified as physically fit. Recognizing the difficulty in regard to precisely stating age this limit has been suggested.]

Sanitation.

Under this general heading many and important questions arise which will be dealt with in detail. On the general question of Sanitation in Indian Mills, it is satisfactory to report that on some points considerable attention has been given by Mill Owners and with very good results. It is perhaps not too much to say that certain mills seen by the Committee leave little if anything to be desired, some (it would perhaps be invidious to mention them by name) are not only a credit to India but compare very favourably indeed with the best mills to be found in any part of the world.

Unhappily these remarks are not of universal application. In many mills there is room for much improvement and it is believed that there will be no unwillingness on the part of owners and occupiers to carry out improvements if any suggestions of a practical kind are made.

Ventilation and Humidity.

Questions relating to Ventilation, Temperature and Humidity must be closely allied. For manufacturing purposes it is an absolute necessity that temperature and humidity should by artificial means be capable of regulation. If there is too much moisture in the atmosphere as is often the case in the monsoon or wet weather various processes could not be carried out without hot radiating pipes or other appliances for drying the air. At times Humidity is wanting in the atmosphere and it must be artificially supplied.

In the early days of Spinning and Weaving in Bombay, there is evidence to show that when Humidity was wanted all windows were closed, water thrown about on the floor and damp cloths hung up. In a short time owing to carbonic acid and organic impurities given off from the respiratory organs and bodies of the workers and other sources, the air became extremely impure and unhealthy.

Now, in many mills much better methods are found; humidity is supplied by various systems either in the shape of steam introduced by steam jets, cold water in the form of spray, or carried in air currents, by different devices.

In English and Continental Factories the method of humidifying by steam is in common use. It may in certain parts of India where there are cool winters be necessary, but in the opinion of the Committee the cold water system is generally preferable as it reduces the temperature in the rooms and not only moisture but fresh air can be conveyed and equally distributed in the same channels. By this means the temperature in many instances has been found to be much below the outside temperature, the air equally pure.

References to the "Haldane" Committee on Ventilation.

In the report of the Departmental Committee appointed to enquire into the Ventilation of Factories and Workshops, generally known as the "Haldane Committee," 1902, it is pointed out that the existence of a certain cubic air space per person affords no reliable guarantee of efficient Ventilation, that the most highly vitiated air met with by the Committee was in rooms with an air-space of about 10,000 cubic feet per person or 40 times the legal minimum. The report states, that it has long been recognised that the best objective criterion of the sufficiency of Ventilation in ordinary rooms is the proportion of carbonic dioxide in the air. The Haldane Committee recommended that a standard of Ventilation should be prescribed for all classes of Factories. The advantages of laying down such a standard are numerous. The manufacturer or mill-owner is not restricted to this method or to that, he may choose his own, provided always that the standard is maintained. To maintain a reasonable standard the air in the room must be frequently changed. It is possible to regulate temperature by passing incoming air, if warmth is

required through radiators, but in India the cases where this is wanted would be extremely rare. The limit originally proposed by Pettenkofer was 10 volumes of carbonic dioxide per 10,000 volumes of air or 6 volumes in excess of the proportion commonly found in the air of towns.

Legal standard of ventilation in English Humid Cotton Cloth Factories.

By an English Home Office order dated 2nd February 1898 it is laid down that in a Cotton Cloth Factory in which Humidity is produced by artificial means, the Ventilation shall be such that during working hours in no part shall the proportion of carbonic dioxide in the air be greater than 9 volumes of carbonic dioxide in any 10,000 volumes of air. It is now freely admitted by occupiers of Cotton Mills after various tests made officially and unofficially, that this standard can be easily maintained.

In India where there are not the same variations of temperature as in England and where cold draughts are not likely to be introduced into the mills, it is believed by the Committee that a standard could very easily be maintained and, if established, without in any way interfering with production, the health and comfort of the workers would be materially improved. It is by no means suggested that the standard laid down for English works should apply to Indian mills in which conditions are from climatic and other reasons entirely different. It is however suggested that an exhaustive series of air tests should be taken in all parts of India where factories exist, that when results are tabulated, a Sanitary expert in conjunction with mill experts should decide upon and report to Government as to a suitable standard.

When air analyses had to be conducted by the Pettenkofer or similar systems necessitating expensive instruments of a delicate nature and difficult to carry about the suggestion now made would have been of an impracticable character, but by adopting the systems in force throughout the United Kingdom difficulties are removed.

Methods of air analyses.

On the requisition of an Inspector small cases containing 6 or more small stoppered bottles are sent with minute instructions as to how the air to be analysed is to be collected allowing for the breathing of the operatives, or other causes likely to unnaturally vitiate the air at any given points. Samples of air when collected are returned to specially appointed chemists, who for a very small fee analyse the contents of the bottles with the Haldane apparatus. A description of this is given on page 118 of the report of the Ventilating Committee before referred to.

It is not proposed that this apparatus although portable should be taken to the mills. The instrument is a delicate one; vibration in carriages, or more so in railway carriages, rough handling or similar causes would soon put the instrument out of order. The vibration of machinery in the mills, and the alternations of temperature inside and outside causing expansion or contraction of the glass may lead to inaccurate results. By many persons it was asserted, that analyses made in the way now suggested were unreliable.

To set this question at rest, two of His Majesty's Inspectors (expert qualified chemists) Mr. Brothers and Mr. MacNair were directed to make exhaustive comparative investigations both in summer and winter in the mills in Dundee and in Belfast. The samples of air were analysed not only by the Haldane process but also by the Pettenkofer method.

Results of air actually analysed in the mills were also taken and compared with those which were sent to the chemist for analysis in the laboratory. The result of these tests was to establish without doubt, that for all practical purposes the Haldane method of analysing air for carbonic dioxide could be relied upon with the fullest confidence. It is within the knowledge of the President that Mr. Scudder, a very well-known chemist in Manchester, Assistant to Sir Henry Roscoe, also made experiments corroborating the opinion above expressed regarding the efficiency of the Haldane apparatus.

Hygrometers.

It should be required that Wet and Dry Bulb thermometers should be affixed in all mills in which artificial Humidity is used, that records showing the difference in the

readings taken say three times a day should be kept for twelve months, the returns being made monthly to an official deputed to receive them. These should also state the exact nature of work carried on, specifying the counts spun, whether weft or warp, or the class of work in the particular rooms. From these returns it would be very easy to draw up a table which if not enforced by law might nevertheless serve as a useful guide to persons in charge of mills and prevent excessive moisture, sometimes found to the detriment of health and to the discomfort of the worker.

In the opinion of the Committee the Medical Inspectors should be required to pay particular attention to the source from which water used for the purpose of humidifying is drawn. The water should be from a public supply of drinking water, or as far as can be ascertained from other reliable source which would stand the test laid down in the English Home Office regulations dated 26th February 1906 for flax spinning and weaving, *viz.*, that any water which absorbs from acid solution of potassium permanganate in 4 hours at 60° F. more than 0.5 grain of oxygen per gallon of water shall be deemed to be liable to cause injury to the health of the persons employed.

Suggested standard of purity of water to be used for humidifying.

In another part of this report, attention has been called to the Temperature in Indian Mills at all seasons. In many the state of things is satisfactory, in others excessive temperatures prevail, but if a standard of Ventilation is laid down, in order to maintain this standard, air in the rooms will be changed frequently and as outside air will at all times be introduced the difference between the interior and exterior temperature should not be very great. Again if air carrying cold moisture with it, is by Plenum Ventilation introduced into the mills as has been successfully done in works seen by the Committee (see tables relating to Empress Mills, Nagpur, Appendix A) the inside temperature should be considerably lower than that outside. In exceptional cases, it may be necessary to resort to mechanical ventilation or to the simple methods long in use in India, *viz.*, the use of *khus khus tatties* or similar devices. It is not thought necessary that any scale of temperature should be laid down, but a general requirement to the effect that a reasonable temperature—bearing in mind what is necessary for manufacturing requirements—should be maintained.

Temperature.

In many works visited, the rooms, walls and surroundings were found to be satisfactory, in others, there was ample room for improvement. A reference to the Resolutions and Orders made under section 18, Indian Factories Act, shows that requirements in different parts of India vary. In the Resolutions and Orders made by the Bombay Government regulations are laid down by rule 9 in regard to general cleanliness and by rule 7 to limewashing once in 14 months. In Madras rule 7 lays down that the Factory shall be kept in a cleanly and wholesome condition but no rule appears to be made requiring periodical limewashing. In the Punjab the rules do not contain any definite regulation regarding either cleanliness or limewashing. In Bengal rule 10 requires that the Factory shall be kept clean and free from effluvia, and rule 12 lays down that the limewashing shall be done once in two years. In the Central Provinces rule 18 requires that limewashing shall be done when ordered by the Inspector, while rule 20 lays down that the Factory is to be kept in a cleanly state. In the United Provinces rule 24 requires limewashing to be done every 14 months, rule 31 relates to the cleanliness and sanitation of the compound, and rule 25 that the floors are to be swept at least once in every week or oftener, to keep them in a cleanly state.

Cleanliness and limewashing.

Individual industries are carried on under similar conditions wherever they may be situated, or if they differ in some minute detail, questions relating to cleanliness and limewashing will not be affected. It will be noticed that in different parts of India the period within which limewashing must be done aries. In some parts no requirement exists at all. The regulations when any ave been made also vary. It would seem that in this respect all requirements hould be assimilated and furthermore that there should be means of knowing

without admissions which could not be used in evidence whether the factories had been lime-washed within the prescribed time. Under the English Factories Act an entry has to be made in the "general register" giving the date of lime-washing and all particulars. Failing such entry, the onus of proof that the law had been observed, rests with the occupier. It may be worthy of consideration whether in India a "general register" containing all legal particulars relating to Factories should not be used, thus avoiding confusion and loss of time which follows when search has to be made through files of loose certificates, loose registers, &c., but if such register is not kept then the declaration suggested above should be made, signed by the occupier, and produced to the Inspector when called for by him.

Dust.

In works visited by the Committee which, will be remembered, were textile factories, no very exceptional dusty processes were noticed. In Carding, Preparing and Spinning rooms a certain amount of dust fibre must be expected and at times this probably causes inconvenience. It would however be difficult to say that injury to health is caused. In cotton, unlike hemp, flax and jute, little dust of a silicious nature attaches itself to the fibre. In Woollen mills the greasy nature of the wool and the numerous processes of washing to which the wool is subject, practically do away with the dust. In jute mills in India material of the best kind is used, "ends," tow, and otherwise dirty materials being exported for use in the manufacture of rope and twine or for other purposes. The Carding of this tow is unquestionably a dusty process injurious to health, but it does not appear to be carried on in India. In the early process of jute manufacture the raw material has to be "batched" either by hand or machinery, frequently by both. Oil and water is sprinkled on the fibre to soften it, moisture naturally confining the dust. Heavily compressed bales are not opened in Indian mills as in those in Dundee, the opening of the bales must be more or less a dusty process, but Indian workers are not subject to this. In cotton mills a machine, or machines known as "Willows" are generally found. Waste material of a very dirty character passes through these machines. Much dust is generated and it is suggested that better means should be adopted for carrying this off by a system of local "exhaust." In a report by the President presented to both Houses of Parliament entitled "Illustration of methods of dust extraction in factories and workshops, 1906," will be found 56 plates with descriptions dealing generally with systems of ventilation and dust extraction. In the early manipulation of jute when the fibre is received into the godown, a process of rough "hackling" takes place. The workers doubtless inhale more dust than is desirable, but taking into consideration the methods under which the work has to be carried on "local exhaust" could only be fixed at an enormous cost, which present circumstances do not appear to call for. It is however suggested that much of this work and also of opening of bales might be done in sheds that are practically open, if not in the open air; that by a system of screens and by placing the workers in suitable positions when there is any wind, the dust may be made to blow away from them. In some workshops visited, the opening was all done in the open air, the management stating that the workers would not work inside.

Should it hereafter be decided that further enquiry relating generally to the conditions of Labour in Indian Factories be made, it is thought that the dust question will call for much more serious attention in many non-textile factories than in the works reported on by the Committee. It was noticed that when occupied in dusty processes the Indian workers almost invariably wore mufflers or in other words a piece of cloth tied in such a way as to cover the mouth and nostrils. In England all efforts have practically failed to induce workers to adopt this precaution.

So far as *Factory* life is concerned in India, special injury to health might probably be looked for in the following industries:—

Diseases of occupation.

Industries.	Diseases.
(1) Brass Foundries	Brass-founders' Ague. Dust. Lead-poisoning.
(2) Foundries and Engineering Shops ...	Inhalation of metallic dust in dry grinding processes.
(3) Distilleries and Breweries	Risk of inhaling dangerous fumes in refrigerating process.
(4) Flour Mills	Inhalation of silicious dust in the first handling of the grain prior to washing.
(5) Leather Works	Dust in certain grinding processes.
(6) Aerated and Mineral Water Manufactures.	Risks of being cut by the bursting of bottles in bottling and wiring, sighting and other processes.
(7) Cement Works	Inhalation of injurious dust.
(8) Coach-building	Risks of Lead-poisoning when old paint is rubbed off.
(9) Cotton Ginning and Cleaning	Injurious dust.
(10) Dye Works	Risks of Lead-poisoning where yellow chromate of Lead is used or arsenical poisoning when Arseniate of Soda is used.
(11) Brick Works	Risk of Lead-poisoning where Lead is used in the glaze. Dust, Carbonic oxide.
(12) Manufacture of Electric Accumulators	Risk of Lead-poisoning.
(13) The Handling of Dry and Dry-sorted Hides.	Risks of Anthrax.
(14) Earthenware and Pottery Works ...	Inhalation of dust and risk of Lead-poisoning where lead is used.
(15) Lucifer Match Factories	Phosphorous poisoning.
(16) Paper Mills	Dust during the first process in handling the materials used.

Anthrax.

The special danger in Textile Factories to which attention has been paid by the Committee is the risk of contracting Anthrax by workers in Woollen Mills. In England owing to the many deaths amongst the wool combers and sorters, chiefly in Bradford, very rigid regulations have been laid down for the handling of certain wools scheduled as "Dangerous Wools." These are "Van Mohair," "Persian Locks," "Persian" or so-called Persian (including Karadi and Bagdad) Alpaca, Pelitan "East Indian Cashmere," "Russian Camel Hair," Pekin "Camel Hair" and "All Mohair" other than "Van Mohair." A Home Office order proposes to schedule as "Dangerous" East India wools. The Committee visited numerous Wool shorting godowns in Bombay in addition to Woollen manufactories in different parts of India. In the sorting godowns they found women, young persons and quite young children at work—babies were often found with their mothers. The occupiers of these godowns say that no cases of Anthrax have ever occurred. It is however possible that there may have been cases which have not been recognized owing to medical advice not having been sought. Samples of dust were collected from several of the godowns, one portion being analysed at the Bombay Municipal Laboratory, the other portion forwarded to the Home Office, London, with the suggestion that some light might be thrown on the general question, were the dust analysed by the Special Bacteriologist at present investigating all questions relating to Dangerous Wools in Bradford. The result of the analysis in Bombay did not disclose the presence of the Anthrax Bacillus or the Spore.

The results from Bradford have not yet been received.

In the very extensive wool works known as the Cawnpore Woollen Mills in which 1,700 people are employed, Anthrax up to the present is unknown. It came to the notice of the Committee that there had been an outbreak in the Bareilly Central Jail. The annual report of the Imperial Bacteriologist in India for 1905-6, page 19, states that a severe outbreak of Anthrax occurred amongst the persons working in wool in the Central Jail at Bareilly in December 1905. There were 13 cases and 7 deaths. The report gives very interesting details relating to the serum treatment. It is stated that all the cases treated benefited by the serum injections, and the only regret of the Medical

Superintendent was, that the serum treatment had not been utilized earlier, and suggestions are made that a certain quantity of Anthrax serum of high potency in sealed tubes should be placed in all jails in which foreign or home wool or goat hair is utilized in the manufacture of jail products. Enquiry made by the Committee has since elicited the fact that the wools manufactured at the time were Tibetan, and that during the years 1896 and 1905 inclusive there were nine cases with five deaths in Indian Jails.

Facilities for taking food.

In certain works visited, covered sheds were provided in which the workers could take their food, but generally it was noticed that the operatives prefer to select some corner of the compound where families or persons of the same caste or sect could eat together. Many workers take their meals in the work-rooms. Whether to provide separate accommodation or not depends a good deal on considerations of the habits of the people in different parts of the country, and the systems under which work is carried on. In the opinion of the Committee, whether to make special provision or not is best left to the discretion of individual employers.

Water-supply.

The rules framed by different Local Governments in regard to the supply of potable water and water for washing purposes vary only in unimportant detail. At certain works visited at Delhi it was stated that exception had been taken to the water-supply by the Medical Inspector. By his order a well had been closed. In one mill at Delhi there had been last year a serious outbreak of cholera in which there were 6 deaths in 36 hours and 9 deaths in all. It is of course impossible to say that the water-supply had anything to do with this outbreak.

In works visited in other parts of India little, if any, exception could be taken to the arrangements for supplying water. In many special attention had been given to this question.

Latrine accommodation.

Under the regulations framed by different Local Governments it is laid down, except in those framed by the Central Provinces Administration, that there shall be separate and distinct latrine accommodation for Mills and Factories; that seats shall be provided in the proportion of 1 to every 50 workers. In the Central Provinces the rule requires that there shall be seats in the proportion of 1 to every 25 males. In the majority of the mills visited much attention had been paid to sanitary questions with very good results. In many installations on the septic tanks system were found, in others they were in course of construction. The water carriage system had in many works been very successfully adopted or where hand carriage was necessary suitable arrangements were made for removal. In other mills however things were not satisfactory; separate urinal accommodation was either not provided, or inadequate, and in some sufficient attention was not paid to cleanliness and frequency of removal.

In walking through the compounds the Committee noticed large numbers of persons awaiting admission to the latrines—a fact that indicates that the seating accommodation is insufficient. In the interest of the mill-owners, if for no other reason, it is thought that the rules in regard to the numbers of seats should be altered so as to provide more accommodation. By so doing much discomfort to the workers would be avoided and one of many excuses made for loitering removed.

Means of Escape in case of Fire.

In the Textile Mills visited the arrangements made for the escape of workers in case of fire were good. It is however suggested that the owner should see that doors are hung in such a way that they can be immediately opened from inside and be constructed so as to open outwards.

Fires in Cotton Presses.

At a very late stage in their proceedings, and when their report was nearly complete, it was for the first time brought to the notice of the Committee that grave dangers from fire exist in Cotton Presses, that very many women and some men have been burnt to death.

These presses are found in all parts of India; time does not allow the Committee to make personal enquiry. It is suggested that reports be called for

from the Chief Factory Inspectors in all Presidencies regarding the frequency of such fires, the number of casualties for a given period, what precautionary measures can be suggested, whether it is the custom to employ women in front of the openers, and if so, should such practice be prohibited by law.

A copy of a report on this subject from Mr. W. L. Hartley, then Presidency Inspector, Bombay, will be found in Appendix F but it is not thought desirable to publish the name of the firm referred to.

Machinery.

By instructions contained in a letter from the Government of India, Department of Commerce and Industry, No. 9994-13, dated the 17th December 1906, it was decided that the Committee should report upon the fencing of dangerous machinery, but as the reference is confined to Textile Factories the much larger consideration of machinery fencing in the manifold works scattered all over India is not included. While visiting Textile Factories, (Machine shops, Foundries, Wood Cutting Shops, and Crushing Mills, Dye Work, &c.) pertaining to these factories were also seen.

These visits enabled the Committee to form some opinion in regard to the state of similar works outside Textile Mill premises. At the Home Office, London, and in all district offices in the United Kingdom, a book known as a "Guard Book" is kept. This contains a large collection of plans, drawings and descriptions of appliances for saving life or limb, or for health considerations. The book has been kept for years, and in it are found recommendations from recognized authorities. It was suggested that copies of this book should be applied for, and if these are supplied to the officials who administer the Indian Factories Act, they should be of great help. The copies have been applied for as suggested. In Indian Textile Factories, speaking generally, the attention paid to fencing reflects great credit on the management. Many Mill Agents and Managers have opportunities of seeing mills at Home, they visit works where machines are made, and study Trade Journals, the result being that many of the most up to date guards are found in Indian mills and these appear to be generally asked for when new machines are ordered.

A report by Mr. H. S. Richmond, one of His Majesty's Superintending Inspectors of Factories, presented to both Houses of Parliament, 1906, and published by Messrs. Darling and Son, 34, Bacon Street, London, East, price 3/9, gives statistics relating to—

1. All machinery accidents in cotton mills,
2. Accidents in connection with mules,
3. Do. do. Looms,
4. Do. do. Carding Engines,
5. Do. do. Speed Frames,
6. Do. do. Scutchers,
7. Do. do. Ring and Throstle Frames,
8. Do. do. Drawing Frames,
9. Do. do. Winding Frames and reels,
10. Do. do. Combers and Doublers,
11. Do. do. Plaiting machines,
12. Cotton machinery accidents resulting fatally.

Illustrations of the latest and best guards are also given. The Committee would suggest that copies of this report should be supplied to Factory Inspectors who might as occasion offered show them to Agents, occupiers, and Managers of Mills.

In the body of a report such as this space does not allow detail in regard to the general question of machinery fencing, but the Committee would call attention to certain points apparently not yet fully appreciated.

In India as elsewhere there is nothing more difficult to bring home than the danger of unfenced revolving shafting; day by day in all countries press reports appear showing how workers are mangled and killed by being caught by shafting, but day by day officials are assured that there is no danger.

Line shafting at a reasonable height from the floor is from its position considered safe, but frequently platforms are placed just under line and other shafting, the result being that workers are practically invited to approach for

oiling, cleaning, feeling of bearings, putting on belts, &c., a recognized source of danger.

Fencing, owing to the number of drums, is sometimes difficult, but often it would be wise to remove the platform, or if it remains, the shaft itself can often be cased in, at points of danger; sometimes a rail can be fixed which will afford protection without interference with work.

In ginning mills the condition of the line shaft or second motion, calls for careful attention. Many serious and fatal accidents have occurred in such mills; the clothing of men and women has been caught; the victims twisted round by the shaft, mangled and killed. The shaft referred to is in a cellar under the ginning machines. In some the cotton seeds fall in large quantities close to the shaft, in all, some seeds find their way to positions near it. Men and women approach the shaft to remove seeds, to clean, oil or feel bearings, put on belts, &c.

There are in India over a thousand ginning mills, some under the Factories Act, some not. In some visited by the Committee, there was no fencing, in some a rail was fixed, but for protection purposes it was of no more use than the outer wall of the factory. The workers go inside the rail.

In a few the shafting itself was cased in between the drums; this method in the opinion of the Committee, if properly carried out, is the right one. In machine shops it was exceptional to find fenced the bevel wheels of vertical drills, the change wheels of lathes, and on other machines dangerous in taking cogged wheels were often left unfenced.

Circular saws are generally unfenced, contrary to universal custom in the United Kingdom. Sides of saw benches are unfenced rendering workers who remove saw-dust, or stoop to pick up a fallen tool or piece of wood liable to serious injury.

In rope works the "flyers" of the horizontal spinners which revolve at a great speed are unfenced, but makers of these machines are now sending them out properly protected.

The water gauge glasses on boilers are fenced in some works, in some they are not. The glasses occasionally burst, and there is danger of the stokers being cut by fragments of broken glass. A worker in Bombay was recently struck in the eye.

In many rooms, but notably in blow rooms in cotton mills, it was noticed that projecting spindles or ends of shafts driving the beaters of scrutchers and similar machines were left unfenced, in some these were covered by a loose cap. This or other form of guard is necessary. Unfenced such spindles are a source of danger.

In weaving sheds shuttle guards were sometimes found, but this practice is not universal. To lay down an absolute law on this subject might sometimes lead to unnecessary trouble and expense. In Jute mills visited, the Committee received assurances, which they accept, that the shuttles do not fly; in some cotton mills where there are fast running looms it was acknowledged that the shuttles do fly, and in some, the workers had improvised guards by hanging up cloths (wing guards) between the looms.

The danger is greater when "under pick looms" are used.

The Inspectors in doubtful cases might require that a certain number of wooden or metal "wing guards" should be fixed in suitable positions; the indentations, if found, would show that the shuttles do fly.

Electricity for Driving Machinery.

Plant for generating electricity is commonly found in Indian mills; the current being utilised for lighting purposes. In one mill only visited by the Committee was it used for driving machinery. There is reason however to believe that electric power will ere long be extensively substituted for steam. In the

public press, schemes are discussed for the construction of gigantic generating plant capable of supplying sufficient force to drive all the mills in Bombay. Inquiry at the one mill referred to above elicited the fact that between May 1905 and November 1906 there had been three deaths from electric shock.

Looking ahead it is felt that measures of protection should be considered if eventually the Indian Factories Act, or the rules made under it, are to be amended. The Committee recommend that the report and suggested Special Rules drawn up in conjunction with the highest electrical experts by the Electrical Adviser to the Factory Department, Home Office, London, should be considered.

Suggested amendments to the Indian Factories Act.

A brief summary of the conclusions arrived at by the Committee may be useful for reference.

Firstly attention is called to the Indian Factories Act and it is suggested for consideration whether the clauses referred to could not with advantage be amended.

(Act No. XV of 1881 as modified up to December 1904.)

Section 1.—"It applies to the whole of British India." This being so, would not uniformity and efficiency be better secured if primarily the administration of Factory Laws were placed under the Department of Commerce and Industry, Calcutta, reserving for Local Governments all necessary powers within their own jurisdiction.

Should not all Rules and Orders relating to similar works carried on under similar conditions be the same in all parts of India. Unless for good cause shown to the central authority there is reason for alteration or modification.

Seeing that Native States compete with works under the Indian Factories Act, and that temptations exist, for erecting mills in these States and so evade the Factory Laws, should means be considered whereby these Laws could be made to apply to States under British influence.

Section 2.—The risks to life and limb from unfenced machinery are identical in similar works, whether work continues for less than four months in the year or whether it continues for the whole year. These risks are identical in places employing over or under fifty hands. Should not all places as defined by the section come within the Act. (According to "Kerrawalla's Textile Year Book," there are in India, including Native States and the Nizam's Territory, 1,109 ginning factories. These contain dangerous machinery. Excessive hours are often worked by women and children, both by day and night.)

Section 5 B.—(Holidays.)—Women have been found at work in a Reeling and Winding room on a Sunday, this day having been declared by the firm to be one of the holidays to be legally observed in compliance with rules and orders of the Bombay Government.

In order to prove an offence, the Inspector would have to show (Section 5-B Indian Factories Act—Sub-Section (2) (*b*)) that these women had not, and would not have a whole day on one of the three days immediately preceding or succeeding the Sunday.

Proof as to whether a day had been given on one of the three preceding days could only be had by the evidence of the women, who would be most unwilling witnesses. The persons having been found at work would of course be told by the management to take a holiday on one of the three succeeding days.

No protection appears to be given against employment on legal holidays. It is suggested that the law should state that any person found at work on a legal holiday (except persons specially exempted) should be deemed to be employed contrary to law.

Section 15.—A reference to part IX, English Factory Act; 1901, will show that in every instance the "occupier" is held to be the person primarily responsible for offences under the Act. "Occupier" is an undefined term but by section 146 it is laid down that in laying an information "it shall be sufficient to state the ostensible occupier of the factory or workshop, or the title of the firm by which the occupier employing persons in the factory or workshop is usually known."

Section 129 of the English Factory Act, 1901, requires that a "General Register" shall be kept in which prescribed entries must be made. These include the name of the "occupier."

The "penalty" section of the Indian Factories Act imposes penalties on "any person" practically relieving the management from the duty of seeing that the law is observed in their works.

Section 17.—It is true, lays down that any occupier shall be held primarily responsible, but he may discharge himself by proof that the breach was committed by some other person without his knowledge or consent.

Important cases have been lost by responsibility being transferred from one irresponsible person to another—a fact to which attention has been called by officials and by a Magistrate.

Section 141 of the English Factory Act requires that before an occupier can transfer his responsibility he must satisfy the Court

(*a*) that he has used due diligence to enforce the execution of the Act,

(*b*) that the said other person had committed the offence without his knowledge, consent or connivance, or

if at the time an offence is discovered by an Inspector it is made clear

(*a*) that the occupier had used all due diligence,

(*b*) by *what* person the offence was committed,

(*c*) that it was committed without his knowledge, consent or connivance and in contravention of his orders,

then the Inspector shall proceed against the actual offender.

It will be seen that before an occupier can throw off all responsibilities for the conduct of his own works, conditions are laid down.

If the occupier fails to convince the Inspector, then, should proceedings follow, he must convince the Court that he had done his duty and prove by what person the offence was committed.

Section 18.—See remarks under section 1.

Section 20.—See remarks under section 2.

Definite Suggestions made by the Committee.

1. That there may be as little delay as possible in giving effect to proposals in contemplation for improving the homes and home surroundings of Mill hands.

2. That arrangements be made to secure uniformity of administration of the Factory Act throughout India.

3. That the systems of Inspection, the strength and composition of the staff of Inspectors should be considered with a view to securing efficiency.

4. That Medical Inspectors whose whole time should be devoted to their duties under the Factories Act be appointed.

5. That certificates of age and physical fitness for employment be required prior to half-time employment, and prior to employment as an adult.

That these certificates be in the Form suggested in the body of the report and that they be the personal property of the persons to whom they apply.

6. That consideration be given to the suggestion made by many experienced witnesses that elementary teachers to be paid by the millowners should be appointed for instruction of half-time children in suitable places on the mill premises.

7. That clear and definite laws be made, requiring that half-time children shall be employed only in sets—

either on the morning and afternoon set system,

or

the double set system largely adopted in Indian Mills.

That efficient measures be taken to secure that the children work only in their proper sets, and that the prescribed hours of labour are not exceeded.

8. That night work of women be prohibited.

9. That by suitable administrative regulations young children should prevented from accompanying their parents to rooms in which they incur risk from running machinery or the inhalation of dust or impure vapours.

10. That the period of employment in Indian Factories shall be either between the hours of 5.30 a.m. and 6 p.m., or 6 a.m. and 6.30 p.m.

That the engine shall cease running for half an hour between the hours of noon and 2 p.m.

Provided that in Factories working on the day shift system the period may be between 5 a.m. and 8 p.m., but the actual period of employment for male adults shall never exceed twelve hours in any one day. Where from the nature of the work day and night shifts are necessary the period of employment for adult males shall not exceed twelve hours in any twenty-four.

11. That the names of all persons under the age of 16 years be entered in the prescribed register, but that certificates of age and physical fitness be only required up to the age of fourteen years.

12. That samples of air collected under prescribed conditions be taken in works in all parts of India, with a view to hereafter decide upon a suitable standard of ventilation.

13. That wet and dry bulb thermometers be placed in all humid cotton cloth factories, readings taken at fixed times, and returns forwarded monthly; these returns to be eventually considered with a view to deciding the amount of moisture necessary for manufacturing processes, bearing in mind the health of the operatives.

14. That a standard of purity for water to be used for introducing moisture into the mills and factories be fixed.

15. That the dates of lime-washing be entered in a prescribed register.

16. That particular attention be paid to carrying off dust when generated in quantities likely to cause injury to health.

17. That when enquiries now going on are complete, should it be found that workers in woollen mills are liable to contract Anthrax, the special precautions framed under the English Factory Act be considered.

18. That the latrine accommodation be increased to one seat for every twenty-five persons and that separate urinal accommodation be provided in all mills.

19. That doors in the various rooms be hung in such a way that they can be immediately opened from inside and be constructed so as to open outwards.

(This is recommended as a safety measure in case of fire.)

20. That in certain respects—chiefly in ginning mills—more attention be paid to the fencing of dangerous mill gearing and machinery.

In conclusion the Committee desire to express their sincere thanks to those whose help and co-operation has so materially assisted them in their enquiries. From Government Officials, Millowners and Managers, Chambers of Commerce,

Trades Associations and others, facilities and courtesies were freely offered. The Special Inspectors of Bombay, Ahmedabad, Calcutta and Madras accompanied the Committee to many of the works visited, and rendered valuable help in their respective districts.

An acknowledgment is due to the Press. Valuable information has been gained by the perusal of articles and notes relating to Factory labour; quotations from the *Pioneer* appear in the body of the report. It is well known that able and exhaustive articles on Mill Labour appeared in the *Times of India*. These much exercised the public mind, and the controversy that followed elicited opinions from many holding divergent views. How far the conclusions of the Committee agree with those of the writer of the *Times of India* articles must be judged by a perusal of this report, but it is thought that a public service was rendered when attention was directed to, and discussion invited on, a question of vital interest to employers and employed.

Instructive articles on ventilation and humidity in mills, which appeared in the Indian Textile Journal, were read with interest by the Committee.

(Signed) HAMILTON P. FREER-SMITH, President.

(„) J. F. MACLAREN, } Members.

(„) J. A. TURNER, }

Bombay, the 5th April 1907.

APPENDIX A.

THERMOMETER AND HYGROMETER READINGS AT CERTAIN MILLS

IN

INDIA AND ENGLAND.

ELGIN MILLS COMPANY CAWNPUR.

Middle Weaving Shed.

Date.		Readings of Thermometers, *in degrees Fahrenheit.*						Remarks.
Year 1906.		Between 7 and 8 a.m.		Between 10 and 11 a.m.		Between 3 and 4 p.m.		
Month and day.		Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	
June ...	1	96	75	102	78	100	76	
	2	94	76	100	74	102	75	
	3			Sunday.				
	4	94	74	100	75	104	75	
	5	98	72	104	76	105	76	
	6	98	76	102	75	103	78	
	7	98	80	101	82	104	81	
	8	97	82	102	85	104	83	
	9	95	81	102	83	105	82	
	10			Sunday.				
	11	97	82	103	84	102	80	
	12	97	81	102	84	102	86	
	13	96	82	102	90	104	92	
	14	97	78	102	87	106	94	
	15	96	80	103	88	105	96	
	16	94	77	102	80	105	82	
	17			Sunday.				
	18	100	86	101	86	103	86	
	19	96	83	100	86	101	86	
	20	100	84	99	85	102	88	
	21	98	86	101	87	103	88	
	22	100	86	101	86	102	88	
	23	100	86	102	87	104	90	
	24			Sunday.				
	25	100	86	101	87	103	89	
	26	100	86	101	87	102	87	
	27	98	87	100	87	101	87	
	28	97	85	98	86	100	86	
	29	98	86	102	87	104	89	
	30	100	98	102	88	104	90	
July ...	1			Sunday.				
	2	99	86	101	88	104	90	
	3	100	87	102	88	103	90	
	4	101	88	102	89	104	90	
	5	100	88	102	90	104	90	
	6	100	87	102	88	103	90	
	7	100	88	104	91	104	90	
	8			Sunday.				
	9	99	87	102	90	103	92	
	10	100	91	103	91	104	92	
	11	100	91	101	91	102	92	
	12	99	83	101	84	102	85	
	13	100	91	101	84	102	85	
	14	99	83	101	84	102	85	
	15			Sunday.				
	16	99	87	101	89	102	91	
	17	99	84	101	88	101	92	
	18	101	83	103	86	103	88	
	19	102	86	103	86	103	84	
	20	100	85	102	86	104	88	
	21	100	88	103	89	104	88	
	22			Sunday.				
	23	96	85	100	87	104	89	
	24	98	86	100	86	102	86	
	25	99	87	101	89	102	90	
	26	100	90	101	91	Mill closed holiday.		
	27	98	90	99	91	104	91	
	28	98	90	100	92	103	92	
	29			Sunday.				
	30	98	90	100	92	100	91	
	31	99	92	100	92	101	92	

Records from June 1906 to February 1907 except October which is mislaid.

Date.		Readings of Thermometers, *in degrees Fahrenheit.*						Remarks.
Year 1906.		Between 7 and 8 a.m.		Between 10 and 11 a.m.		Between 3 and 4 p.m.		
Month and day.		Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	
August ...	1	98	90	99	91	102	92	
	2	100	89	101	89	104	90	
	3	101	90	101	91	104	92	
	4	100	90	101	90	103	91	
	5			Sunday.				
	6	99	90	100	90	102	91	
	7	98	91	100	92	103	92	
	8	99	90	101	91	102	92	
	9	101	91	102	92	103	93	
	10	99	90	102	92	103	93	
	11	100	90	103	92	103	92	
	12			Sunday.				
	13	97	90	98	90	101	90	
	14	97	89	99	90	100	90	
	15	96	90	98	90	99	91	
	16	99	90	100	90	102	90	
	17	98	91	100	91	101	91	
	18	99	90	100	90	100	90	
	19			Sunday.				
	20	97	90	98	89	99	90	
	21	98	90	99	90	102	91	
	22	98	89	99	90	100	92	
	23	99	89	100	90	101	92	
	24	99	89	101	91	102	92	
	25	98	89	99	90	101	91	
	26			Sunday.				
	27			Holiday.				
	28	98	88	99	89	100	90	
	29	98	87	99	88	101	90	
	30			No Record.				
	31			No Record.				
September	1	97	89	100	90	101	91	
	2			Sunday.				
	3	96	88	99	89	101	92	
	4	98	89	100	90	102	91	
	5	101	92	102	92	101	91	
	6	100	90	102	92	102	92	
	7	101	91	102	92	103	92	
	8	100	91	102	92	103	94	
	9			Sunday.				
	10	100	92	102	93	102	94	
	11	101	92	102	93	102	93	
	12	102	91	102	92	102	92	
	13	100	89	101	90	103	91	
	14	101	88	102	93	101	90	
	15	100	89	101	90	102	88	
	16			Sunday.				
	17	98	86	101	89	101	90	
	18	99	88	100	88	102	90	
	19	97	90	98	91	100	90	
	20	99	89	100	90	102	91	
	21	99	89	101	92	103	92	
	22	97	89	100	90	101	92	
	23			Sunday.				
	24	96	84	98	88	100	90	
	25	97	88	99	89	101	91	
	26			Holiday.				
	27			Holiday.				
	28	96	87	98	84	100	90	
	29	98	88	100	90	102	91	
	30	98	85	101	92	102	92	

(Records for October 1906 mislaid.)

Date.	Readings of Thermometers, *in degrees Fahrenheit.*						
Year 1906.	Between 7 and 8 a.m.		Between 10 and 11 a.m.		Between 3 and 4 p.m.		Remarks.
Month and day.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	
November 1			Holiday.				*Moisture.*
2	79	76	86	84	88	82	90 per cent.
3	82	79	87	85	89	83	90 „
4			Sunday.				
5	80	77	85	79	88	84	72 per cent.
6	84	80	86	82	88	83	80 „
7	79	75	85	82	88	85	85 „
8	79	74	84	81	89	84	85 „
9	80	77	83	78	87	79	76 „
10	79	77	85	82	88	80	85 „
11			Sunday.				
12	76	73	83	78	88	83	76 per cent.
13	78	75	84	79	88	84	76 „
14	75	70	83	78	88	84	76 „
15	76	73	80	78	87	83	90 „
16	80	78	85	82	87	84	85 „
17	84	81	83	78	88	84	76 „
18			Sunday.				
19	79	77	82	80	87	83	90 per cent.
20	78	76	82	78	87	84	80 „
21	78	75	82	79	87	83	85 „
22	78	74	82	79	85	81	85 „
23	78	74	82	78	84	78	80 „
24	77	73	81	77	84	78	80 „
25			Sunday.				
26	75	70	80	76	84	78	80 per cent.
27	76	73	81	75	83	75	72 „
28	74	70	80	72	83	73	63 „
29	74	68	80	72	84	74	63 „
30	74	69	81	75	84	75	72 „
December 1	75	70	79	75	84	78	80 per cent.
2			Sunday.				
3	73	70	78	74	85	80	80 per cent.
4	73	70	78	73	84	79	75 „
5	75	71	78	75	85	80	84 „
6	75	70	81	77	85	80	80 „
7	75	71	82	76	84	80	72 „
8	75	70	83	77	84	79	72 „
9			Sunday.				
10	70	67	75	71	84	78½	79 per cent.
11	71	68	75	71	82	77	79 „
12	73	69	78	73	83	78	75 „
13	74	69½	80	75	83	78	75 „
14	74	70	81	75	83	78	75 „
15	74	70	78	73	80	75	75 „
16			Sunday.				
17	71	68	75	69	78	72	70 per cent.
18	72	68	77	70	82	74	67 „
19	72	67	76	72	84	78	79 „
20	72	70	76	72	83	80	79 „
21	74	71	78	75	82	78	84 „
22	74	70	77	73	80	75	79 „
23			Sunday.				
24	66	62	71	68	77	72	83 per cent.
25							
26	65	61	70	67	75	70	85 „
27	64	62	72	68	78	74	79 „
28	65	61	72	69	77	72	84 „
29	66	62	72	69	78	75	84 „
30	64	62	73	70	78	75	84 „
31	67	64	74	73	80	77	94 „

Date.	Readings of Thermometers, *in degrees Fahrenheit.*						Remarks.
Year 1907.	Between 7 and 8 a.m.		Between 10 and 11 a.m.		Between 3 and 4 p.m.		
Month and day.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	
January ... 1							*Moisture.*
2	65	66	74	72	80	78	89 per cent.
3	69	66	75	71	80	77	79 „
4	69	67	74	71½	79	75	84 „
5	70	67½	76	73	79	75	84 „
6			Sunday.				
7	69	67	77½	76	82	80	94 per cent.
8	72	70	76	73	81	78	84 „
9	75	73	77	74	81	78	84 „
10	72	69	76	73	77	74	84 „
11	71	69	74	72	77	73	89 „
12	68	65	72	69	76	72	84 „
13			Sunday.				
14	67	64	73	71	75	71	89 per cent.
15	65	62	72	68½	78	75	79 „
16	67	65	71	69	78	74	88 „
17	67	64	72	70	78	73	88 „
18	68	66	72	69	78	75	84 „
19	67½	65½	73	70	78	75	84 „
20			Sunday.				
21	67	63	74	71	80	76½	84 per cent.
22	67	65	72	68	80	77	79 „
23	70	67	75	72	82	75	84 „
24	73	69	77	71½	85	79½	75 „
25	74	70	80	76	85	81	80 „
26	75	72½	80	76	85	80	80 „
27			Sunday.				
28	70	64	78	72	83	78	71 per cent.
29	74	71	80	78	84	78½	90 „
30	75½	72	79½	75	84	80	80 „
31	74	70	77	73	83	79	79 „
February ... 1	70	67	76	73	79	74	84 per cent.
2							
3			Sunday.				
4	72	69	77	75½	81	78	89 per cent.
5	75	73	78	75	83	78	84 „
6	70	66	75	71	76	71½	79 „
7	73	70	77	74	79	76	84 „
8	68	66	73	69	76	71	79 „
9	69	67	73	70	76	70	84 „
10			Sunday.				
11	72	70	76	73	80	76	84 per cent.
12	74	70	75	70	76	70	74 „
13	69	64	71	68	78	75	83 „
14	70	67½	72	68	78	76	79 „
15	73	70	76	73	83	78	84 „
16	74	72	77	74	82	78	84 „
17			Sunday.				
18	73	70	74	70	77	74	79 per cent.
19	73	72	74	72	76	73	89 „
20	69	69	73	70	77	75	84 „
21	70	68	74	71	78	75	84 „
22	69	67	75	72	80	76	84 „
23	71	68	79	75	79	75	80 „
24			Sunday.				
25	70	65	75	69	80	72	71 per cent.
26	72	68					Note.—Percentage of moisture taken off the 10–11 a.m. particulars.
27							
28							

W. VERNON,

EMPRESS MILLS, NAGPUR.

March 1906.

D=Dry
W=Wet.
H=Humidity.

Date.	Nagpur observatory reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
			%			%			%			%			%			%			%			%
1 ...	73·1	53·5	17	85·9	58·0	9	66	60	71	69	62	67	71	65	72	70	61	60	76	68	66	80	71	64
2 ...	78·9	57·0	18	92·2	64·6	17	67	62	76	72	68	82	75	61	44	74	64	58	82	71	58	86	74	57
3 ...	79·9	59·5	22	93·9	67·1	19	67	62	76	70	65	77	74	69	78	74	64	58	80	69	57	84	72	56
4 ...	86·9	62·1	17	95·8	67·1	16	70	61	60	70	62	64	71	65	72	70	60	55	78	68	60	81	70	58
5 ...	78·9	67·8	54	96·4	67·1	15	77	71	74	81	75	76	...	...	...	70	62	64	79	67	53	...	...	...
6 ...	88·4	63·1	18	97·4	65·6	13	Mohoram Holiday.																	
7 ...	87·9	66·1	26	97·1	66·6	14	74	65	62	80	72	68	79	73	75	78	66	53	88	74	52	90	75	50
8 ...	81·9	58·0	15	92·9	62·1	9	70	65	77	74	65	62	76	68	66	78	66	53	88	74	52	90	75	50
9 ...	82·9	59·0	16	82·9	65·1	10	71	65	72	76	68	66	77	70	71	80	66	47	83	70	52	86	72	51
10 ...	85·4	62·6	22	98·4	69·1	17	72	66	73	79	70	64	...	...	...	80	68	54	84	74	63	88	75	55
11 ...	91·6	67·8	24	99·4	68·6	15	Holi Holiday.																	
12 ...	83·9	64·1	28	94·6	67·1	18	76	70	74	78	70	67	80	72	68	80	66	47	86	76	63	...	...	...
13 ...	84·9	61·5	19	94·9	65·6	15	72	63	61	78	70	67	81	72	65	80	68	54	86	72	51	88	73	49
14 ...	81·9	62·1	26	94·9	67·1	17	72	67	77	78	70	67	80	73	72	75	63	51	88	71	43	90	74	47
15 ...	85·1	66·6	34	91·6	70·1	30	73	68	78	79	73	75	80	75	79	76	64	52	...	...	...	...	...	...
16 ...	83·4	70·1	48	86·4	71·1	44	74	71	86	81	76	80	83	78	80	...	...	...	...	...	...	...	...	...
17 ...	81·6	70·1	54	89·4	71·1	37	74	69	78	81	75	76	86	78	70	...	...	...	87	74	54	90	76	53
18 ...	76·9	66·6	55	87·9	67·1	29	Sunday Holiday.																	
19 ...	83·9	64·1	28	90·8	64·1	16	70	66	81	76	70	74	80	72	68	74	66	66	88	68	35	90	68	32
20 ...	83·9	62·6	25	94·1	67·6	23	74	68	74	80	71	64	83	75	69	71	64	68	82	70	55	95	72	32
21 ...	75·9	66·1	56	74·9	68·1	68	79	70	64	84	75	66	85	77	70	78	68	60	85	73	56	82	72	62
22 ...	75·9	69·1	69	83·4	72·1	55	77	73	45	83	76	73	89	79	64	78	73	79	82	73	65	90	70	36
23 ...	82·9	67·6	41	93·4	69·1	24	81	75	76	88	75	55	88	77	61	79	70	64	90	72	41	96	74	36
24 ...	87·4	69·3	36	95·4	68·6	21	84	76	69	87	77	64	92	78	54	80	70	61	92	74	43	98	74	32
25 ...	86·9	69·1	36	97·9	71·1	22	Sunday Holiday.																	
26 ...	90·9	70·1	31	96·9	71·6	25	79	74	79	83	75	69	84	78	77	82	70	55	94	76	44	97	78	43
27 ...	84·4	70·6	47	94·9	72·6	30	79	74	79	86	82	84	88	83	81	84	74	58	92	78	54	92	80	59
28 ...	88·4	71·6	41	99·9	71·1	19	79	75	83	85	79	77	86	79	73	86	73	54	92	78	54	94	78	49
29 ...	89·9	72·1	38	98·4	73·6	27	82	74	69	83	78	80	85	79	77	86	74	57	92	78	54	93	79	54
30 ...	89·9	69·1	30	100·3	71·1	24	77	71	74	84	77	73	87	79	70	84	70	49	93	76	57	96	78	45
31 ...	89·9	69·6	32	102·0	68·3	11	82	72	62	80	75	79	85	77	76	86	74	57	90	77	56	92	75	45

April 1906.

Date.	Observatory reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
			%			%			%			%			%			%			%			%
1 ...	87·9	62·0	16	97·9	66·1	12	81	69	54	80	73	72	84	77	73	86	68	39	90	72	41	94	74	39
2 ...	87·9	64·1	21	98·9	66·6	10	74	70	82	79	72	71	83	76	73	82	66	42	86	72	51	88	74	52
3 ...	91·4	64·6	17	101·0	68·1	12								Holiday.										
4 ...	92·9	71·6	32	102·2	70·6	16	74	69	78	83	77	76	85	79	77	78	66	53	92	76	48	92	78	54
5 ...	95·9	66·8	15	104·0	69·1	12	76	72	82	82	74	69	85	77	70	84	70	49	90	76	53	90	76	53
6 ...	96·4	67·9	34	104·6	70·3	13	75	72	87	84	77	73	85	78	73	86	72	51	90	76	53	90	76	53
7 ...	99·1	68·3	14	107·3	70·5	10	81	66	44	84	76	69	87	78	67	90	74	47	90	76	53	92	76	48
8 ...	101·8	68·3	11	109·2	70·7	9								Sunday.										
9 ...	61·0	69·6	15	106·2	70·2	11	79	72	71	90	79	62	86	77	67	88	70	40	102	75	28	92	78	54
10 ...	99·9	69·1	15	107·9	71·1	12	79	73	75	84	75	66	85	77	70	88	74	52	90	76	53	92	79	56
11 ...	101·1	69·5	15	108·0	75·3	17	80	73	72	88	77	61	88	79	67	88	74	52	95	74	37	92	80	59
12 ...	98·4	67·0	13	106·5	71·1	12	82	74	69	85	77	70	85	76	66	88	74	52	90	76	53	91	78	56
13 ...	96·4	65·1	11	107·5	70·6	11	75	69	74	79	72	71	83	76	73	84	70	49	88	76	58	90	78	59
14 ...	96·4	66·6	15	107·0	69·6	10	75	69	74	79	71	68	80	74	75	84	71	53	88	75	55	90	77	56
15 ...	99·9	64·6	7	108·7	68·1	5								Sunday.										
16 ...	99·9	68·1	13	108·9	72·1	11	74	64	58	87	78	67	88	82	77	92	70	59	98	79	43	93	80	57
17 ...	101·0	69·8	16	109·0	72·1	11	77	72	78	80	74	75	86	76	63	88	74	52	91	77	53	94	79	52
18 ...	98·9	67·6	14	106·0	70·6	12	78	73	79	83	72	59	82	75	72	80	70	61	90	74	47	91	76	50
19 ...	101·0	68·1	12	107·7	71·6	12	75	67	66	84	70	49	83	76	73	84	72	56	94	72	34	92	78	54
20 ...	101·2	71·1	18	108·0	74·1	16	79	70	64	86	74	57	86	79	83	86	74	57	94	75	41	94	80	54
21 ...	102·0	71 1	17	108·0	73·1	14	80	73	72	87	71	45	87	76	60	88	75	55	96	76	40	94	79	52
22 ...	99·6	69·3	16	107·0	73·1	15								Sunday.										
23 ...	99·9	71·1	19	108·5	76·1	19	78	73	79	88	70	40	86	79	73	88	75	55	98	77	43	93	78	51
24 ...	101·5	73·6	23	109·7	77·6	20	79	73	75	84	77	73	87	81	77	86	76	63	90	76	53	93	77	48
25 ...	102·0	68·1	11	109·0	72·6	15	80	75	79	85	76	66	87	80	74	86	76	63	97	77	40	93	80	57
26 ...	102·5	68·6	10	109·0	71·1	10								Holiday.										
27 ...	102·1	69·1	13	106·5	71·1	12	77	72	78	84	76	69	85	77	70	90	76	53	92	79	56	94	80	54
28 ...	102·0	69·1	13	108·8	73·1	13	78	72	75	89	71	41	86	78	70	90	76	53	90	80	65	95	80	52
29 ...	104·0	71·1	15	110·0	73·1	13	80	74	75	84	74	63	86	78	70	85	71	50	94	74	39	96	79	47
30 ...	105·0	71·1	14	110·5	72·1	10	80	73	72	84	78	77	86	78	70	90	76	53	95	78	47	95	80	52

May 1906.

Date.	Observatory reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
			%			%			%			%			%			%			%			%
1 ...	104·0	70·1	13	111·0	74·1	13	81	76	81	87	75	57	86	80	77	90	74	47	97	76	38	95	81	55
2 ...	104·8	71·9	15	110·0	72·6	10	83	77	76	87	78	67	87	80	74	92	78	54	96	78	45	95	80	52
3 ...	103·5	68·1	10	109·5	74·6	15	88	77	61	81	76	80	85	79	77	90	78	59	92	78	54	94	80	54
4 ...	103·5	70·6	15	111·0	72·1	10	85	75	63	85	85	63	86	76	63	94	84	66	94	77	46	98	79	43
5 ...	103·5	70·6	15	112·0	72·6	10	79	73	75	84	75	66	84	77	73	90	76	53	94	79	52	94	80	54
6 ...	107·0	69·6	10	113·5	71·1	6								Sunday.										
7 ...	107·0	70·1	10	114·5	73·6	9	83	76	73	86	78	70	88	81	74	90	76	53	94	78	49	96	80	50
8 ...	104·5	73·1	18	105·5	72·6	16	81	76	81	89	76	55	86	79	73	91	76	50	91	78	56	98	80	46
9 ...	102·0	77·1	29	102·0	74·1	23	83	78	80	89	81	71	89	79	64	94	80	54	98	82	51	98	80	46
10 ...	99·9	74·1	25	94·6	75·1	37	79	75	83	86	78	70	85	78	73	92	78	54	96	80	50	98	80	46
11 ...	97·9	75·1	31	111·0	75·1	14	77	77	95	87	80	74	86	80	77	90	78	59	96	80	50	98	79	43
12 ...	102·5	73·1	20	112·0	70·6	7	76	76	63	87	78	67	86	79	73	90	76	53	98	79	43	97	78	43
13 ...	105·5	71·1	13	112·0	72·1	9								Sunday.										
14 ...	105·5	73·6	18	111·5	71·6	9	81	77	84	95	74	37	88	82	77	92	82	65	105	75	24	99	78	39
15 ...	105·0	71·1	14	111·0	74·1	13	81	78	88	89	78	61	88	80	71	94	74	66	99	78	39	99	78	39
16 ...	103·0	71·1	16	108·0	71·1	11	78	78	96	89	76	55	87	80	74	92	78	54	100	78	37	98	78	41
17 ...	101·0	74·6	24	109·5	73·1	13	78	77	96	89	81	71	85	81	84	92	74	43	98	78	41	98	78	41
18 ...	103·5	74·1	21	108·0	74·1	16	83	78	80	87	81	77	87	82	81	92	76	48	96	78	45	98	78	41
19 ...	102·5	75·6	21	109·0	77·3	20	79	79	96	87	82	81	89	83	78	94	78	40	98	80	46	100	80	42
20 ...	108·0	74·3	21	111·0	76·6	17								Sunday.										
21 ...	64·5	70·6	14	110·0	73·1	12	77	71	74	95	76	42	90	80	65	94	76	44	102	82	42	100	82	47
22 ...	104·0	69·6	13	110·5	72·1	10	77	74	83	88	75	55	89	77	58	92	72	37	94	76	44	98	78	41
23 ...	107·0	74·6	24	110·0	77·1	19	85	75	63	90	81	68	88	82	77	94	78	49	96	80	50	98	80	46
24 ...	104·0	77·1	26	108·2	74·1	16	86	78	70	89	80	68	91	79	59	96	78	45	99	80	44	98	80	46
25 ...	101·0	79·1	35	82·4	74·1	65	78	66	53	89	81	71	86	77	67	92	78	54	97	82	53	94	80	54
26 ...	77·4	76·6	95	85·9	76·1	61	83	77	76	87	80	74	86	79	73	92	78	54	97	81	50	96	80	50
27 ...	99·9	76·1	30	109·5	77·6	20								Sunday.										
28 ...	102·0	76·1	27	111·0	74·1	13	83	76	73	93	76	46	89	79	71	92	82	65	100	79	39	98	80	46
29 ...	103·0	73·6	21	109·0	74·6	16	84	77	73	87	77	64	88	78	64	94	80	54	96	79	47	98	80	46
30 ...	102·0	73·6	22	107·7	76·6	21	83	73	62	85	75	63	86	79	73	90	76	53	94	78	49	94	78	49
31 ...	99·9	76·6	31	105·5	73·1	17	83	77	76	85	79	77	85	76	66	92	78	54	96	80	50	97	78	43

June 1906.

Date.	Observatory reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
1 ...	98·9	76·1	% 31	105·5	73·1	% 17	83	78	% 80	86	80	% 77	85	78	% 73	92	78	% 54	96	82	% 55	95	79	% 49
2 ...	92·9	74·1	38	98·4	73·6	27	81	75	76	85	78	73	86	79	73	90	78	59	93	80	57	96	80	50
3 ...	102·5	74·1	22	102·5	74·2	22									Sunday.									
4 ...	98·9	74·1	27	107·0	76·1	20	83	76	73	93	77	48	87	79	70	92	80	59	101	81	42	98	78	41
5 ...	105·0	78·1	26	102·0	78·1	31	82	77	80	89	80	68	86	80	77	92	80	59	98	81	48	95	80	52
6 ...	96·6	75·8	35	98·9	76·6	33	86	79	73	89	80	68	85	79	77	92	80	59	94	80	54	95	80	52
7 ...	98·4	78·1	37	98·9	76·1	31	82	77	80	90	79	62	87	79	70	92	78	54	96	82	55	96	79	47
8 ...	92·4	77·1	47	104·0	75·1	22	81	77	84	89	78	61	90	78	59	90	80	65	97	81	50	96	83	58
9 ...	97·9	74·8	30	106·0	75·6	21	81	77	84	92	80	59	89	81	71	90	78	59	98	82	51	97	84	58
10 ...	83·6	75·6	68	95·9	75·1	34									Sunday.									
11 ...	95·4	76·3	38	99·9	75·6	29	80	75	79	91	80	62	91	80	62	90	80	65	98	82	51	96	84	61
12 ...	86·9	75·1	55	97·4	77·1	37	82	78	84	87	80	74	89	82	74	90	82	71	94	84	66	94	84	66
13 ...	93·8	74·0	36	95·0	76·1	39	80	76	83	89	83	78	90	84	78	90	82	71	97	86	64	96	86	67
14 ...	91·9	78·1	51	94·9	77·1	42	84	80	84	90	82	71	91	84	65	90	84	78	96	88	73	96	89	76
15 ...	87·4	77·6	62	101·0	79·6	37	83	79	84	89	81	71	90	82	72	86	80	77	96	82	55	97	84	58
16 ...	86·9	78·1	65	90·9	77·1	51	80	76	83	89	81	71	91	81	65	90	80	65	96	82	55	98	83	53
17 ...	94·9	78·6	46	106·0	75·6	21									Sunday.									
18 ...	95·9	77·1	40	84·4	77·1	79	85	78	73	93	80	57	89	82	74	90	82	84	100	86	57	96	86	67
19 ...	89·9	78·1	56	77·4	75·6	91	86	80	77	87	83	84	86	81	81	90	82	84	94	86	72	92	85	75
20 ...	73·9	73·6	98	76·9	75·1	91	81	76	80	84	79	80	87	79	70	88	80	71	87	82	81	92	84	72
21 ...	80·4	76·1	80	80·4	76·6	83	86	80	77	90	82	71	91	83	71	90	84	78	93	86	75	94	86	72
22 ...	79·9	75·1	78	88·9	78·1	59	86	81	81	92	83	69	93	83	66	90	84	78	94	87	75	98	88	67
23 ...	87·4	78·1	64	92·4	78·6	52	88	81	74	91	84	75	92	83	69	92	84	72	95	87	72	98	88	67
24 ...	80·9	77·1	85	78·4	76·6	91									Sunday.									
25 ...	73·9	73·1	96	72·9	71·6	93	87	80	74	85	76	66	90	80	65	90	86	85	85	82	88	92	86	78
26 ...	82·9	76·1	71	82·9	75·6	69	87	80	74	87	80	74	88	80	71	88	82	77	91	83	71	92	86	78
27 ...	82·9	77·1	75	85·9	78·1	68	88	80	74	88	81	74	90	82	71	92	76	48	92	86	78	92	86	78
28 ...	83·9	77·1	72	82·4	75·8	71	83	80	88	87	82	81	89	80	68	86	82	84	93	86	75	92	86	78
29 ...	82·9	77·1	75	82·7	74·8	86	87	79	70	88	80	71	86	79	73	94	86	72	92	85	75	90	84	78
30 ...	80·9	75·6	77	83·4	77·1	73	88	78	64	88	80	71	86	79	73	88	80	71	87	82	81	89	82	74

July 1906.

Date.	Observatory reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 P.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
1 ...	81·4	75·6	% 75	77·4	74·6	% 86			%			%			% Holiday.			%			%			%
2 ...	83·9	77·1	72	85·4	78·1	70	87	79	70	88	80	71	88	79	67	90	82	71	92	83	69	92	84	72
3 ...	79·9	75·6	80	87·9	79·1	52	78	76	91	84	78	77	89	81	71	86	80	77	90	82	71	96	86	67
4 ...	83·9	78·1	75	91·4	80·1	59	88	84	52	90	83	75	93	84	69	92	84	72	95	86	69	96	86	67
5 ...	78·4	76·6	91	88·9	80·1	66	87	82	81	88	83	81	91	84	75	92	84	72	90	83	75	96	87	70
6 ...	85·9	78·1	68	92·9	79·1	52	84	79	80	90	82	71	94	83	63	90	80	65	94	85	69	98	87	64
7 ..	82·4	77·1	77	88·1	78·6	64	84	79	80	89	84	81	91	83	71	90	86	85	95	88	76	96	90	79
8 ...	79·4	77·6	91	85·7	79·1	72									Sunday.									
9 ...	78·2	75·2	86	85·8	78·1	68	86	80	77	91	85	78	91	84	75	90	86	85	91	88	89	96	90	79
10 ...	82·9	77·1	78	85·9	78·8	70	78	76	91	90	83	75	92	84	72	90	84	78	93	88	82	94	79	52
11 ...	82·9	78·1	79	88·4	80·1	68	83	78	80	94	87	75	93	85	72	90	86	85	92	83	85	96	90	79
12 ...	84·9	78·1	71	84·5	78·1	74	85	80	80	90	84	78	92	84	72	92	86	78	84	89	80	94	90	54
13 ...	84·4	79·1	77	80·4	78·1	89	86	82	84	91	82	68	93	83	66	90	84	78	88	85	83	98	90	73
14 ...	83·9	78·1	75	78·4	77·1	93	88	86	92	89	83	78	88	81	74	90	86	85	92	88	85	95	89	79
15 ...	81·4	76·1	77	85·9	79·1	72									Sunday.									
16 ...	84·9	78·1	72	87·4	79·1	67	87	81	77	88	81	74	91	83	71	90	86	85	94	90	86	97	83	56
17 ...	80·9	77·1	83	87·4	79·1	67	84	80	84	89	83	78	92	84	72	88	81	74	94	90	86	96	92	86
18 ...	84·9	79·1	76	88·9	81·6	69	90	83	75	92	86	78	93	86	75	94	80	54	95	82	58	96	93	58
19 ...	86·4	81·6	80	78·9	77·1	91	90	83	75	91	84	75	88	82	77	94	88	79	93	90	89	90	87	88
20 ...	84·6	79·8	79	86·1	80·1	76	88	81	74	90	84	78	93	86	75	92	82	65	94	90	86	95	90	82
21 ...	79·9	76·6	85	79·9	77·6	89	86	80	77	86	81	81	86	81	81	90	80	65	92	80	59	92	82	59
22 ...	76·4	75·1	93	77·4	75·8	91									Sunday.									
23 ...	77·9	74·6	84	78·9	75·6	85	84	78	80	88	80	71	88	81	74	96	86	67	91	80	62	92	80	59
24 ...	78·4	74·6	82	85·4	76·1	63	88	80	71	89	81	71	89	82	74	88	78	71	92	80	59	93	80	57
25 ...	80·6	75·3	76	83·9	77·1	72	89	80	68	91	83	71	92	84	72	92	80	59	94	80	54	94	82	60
26 ...	81·9	76·6	77	86·9	78·6	67									Holiday.									
27 ...	80·9	75·1	74	82·2	75·9	73	80	79	96	87	80	74	88	80	71	84	79	80	91	80	62	93	80	57
28 ...	79·8	74·1	74	81·9	76·1	75	88	79	67	87	81	77	90	83	75	92	80	59	90	79	62	92	80	59
29 ...	81·4	75·4	74	77·9	75·6	89	86	79	73	88	81	74	89	82	74	88	78	71	92	80	59	92	80	59
30 ...	81·9	76·6	77	88·8	81·1	69	86	82	84	90	82	71	92	83	69	92	89	89	94	82	60	97	82	53
31 ...	81·9	77·3	79	80·9	78·6	89	91	86	82	91	84	75	91	83	71	94	82	60	96	84	61	92	82	59

August 1906.

Date.	Observatory reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
			%			%			%			%			%			%			%			%
1 ...	81·9	77·6	81	87·3	77·3	62	89	81	68	89	83	78	91	82	68	91	80	62	92	82	65	94	80	54
2 ...	84·4	77·1	68	88·4	75·6	53	87	81	77	90	81	68	94	82	60	90	78	59	93	79	57	96	79	47
3 ...	82·4	74·6	67	84·9	76·6	66	88	80	71	91	82	68	93	83	66	90	78	59	94	79	52	94	80	54
4 ...	83·4	76·6	72	90·4	77·6	54	90	84	78	91	81	65	96	83	58	92	80	59	94	79	52	98	80	46
5 ...	85·9	76·6	65	87·9	77·3	59									Sunday.									
6 ...	81·9	75·6	73	77·4	73·6	82	85	82	88	89	81	71	93	82	63	92	80	59	90	80	65	98	80	46
7 ...	84·9	77·1	68	88·9	77·1	56	87	80	74	89	81	71	90	81	68	90	80	65	94	80	54	94	80	54
8 ...	84·9	76·6	66	89·9	78·1	56	88	80	71	89	81	71	94	83	63	90	78	59	95	80	52	98	80	46
9 ...	85·4	76·1	63	88·4	77·6	59	87	82	81	89	81	71	93	82	63	92	78	84	96	80	50	98	80	46
10 ...	80·9	76·8	79	81·6	77·6	82	83	81	92	86	80	77	89	83	78	90	80	65	92	80	59	94	82	60
11 ...	84·4	78·6	76	83·9	77·6	74	86	82	84	89	82	74	91	84	75	92	80	65	94	82	60	94	82	60
12 ...	85·9	77·8	67	91·4	78·1	52									Sunday.									
13 ...	86·9	77·6	64	90·0	78·1	56	82	79	88	90	81	68	93	82	63	90	78	59	96	80	50	98	82	51
14 ...	85·9	75·1	58	91·4	76·1	48	80	79	96	88	79	67	94	82	60	90	80	65	96	80	50	98	82	51
15 ...	80·9	76·3	82	88·5	77·5	59	84	80	84	90	80	65	94	83	63	90	80	65	96	80	50	96	82	55
16 ...	85·1	77·3	68	85·9	76·5	64	85	80	80	91	82	68	92	83	69	90	80	65	96	81	53	96	82	55
17 ...	79·3	77·0	91	84·9	78·0	72	85	80	80	89	83	73	90	82	71	90	80	65	92	82	65	96	82	55
18 ...	82·9	77·3	73	86·9	78·2	65	87	80	74	88	82	77	90	82	71	90	80	65	92	80	59	94	81	57
19 ...	81·9	77·6	81	81·9	78·1	83	87	82	81	88	81	74	...	...	...	90	80	65	90	80	65	...	...	...
20 ...	82·9	77·1	75	87·9	78·1	65									Holiday.									
21 ...	84·4	79·1	77	79·9	77·8	89	80	80	96	88	82	77	88	83	81	89	90	68	93	82	63	93	82	63
22 ...	83·4	77·3	73	90·4	78·6	57	86	81	81	88	82	77	91	83	71	90	80	65	92	81	62	96	82	55
23 ...	82·9	78·6	81	84·9	79·1	76	84	81	88	87	83	84	90	84	78	90	80	65	92	82	65	94	83	63
24 ...	83·9	78·1	75	85·1	78·6	74	88	85	88	89	84	81	89	83	78	92	82	65	94	82	60	90	84	78
25 ...	82·9	78·1	79	82·4	79·1	85	88	83	81	89	84	81	89	83	78	90	80	65	94	83	63	91	81	65
26 ...	78 9	77·1	91	79·9	77·1	87									Sunday.									
27 ...	82·4	78·1	81	76 9	76·1	95	83	79	84	87	82	81	85	79	77	86	78	70	92	82	65	90	81	68
28 ...	77·1	74·1	86	75·9	74·6	93	83	78	80	84	78	77	88	82	77	84	78	70	84	79	73	90	84	78
29 ...	72·9	72·1	95	73·9	72·8	93	83	77	77	87	80	74	90	83	75	85	78	73	87	78	67	88	78	64
30 ...	72·9	71·6	93	75·6	72·3	84	80	78	91	82	79	88	83	77	76	85	76	66	86	77	66	88	78	64
31 ...	72·9	70·1	86	74·8	73·6	93	77	75	91	86	80	77	87	80	74	82	72	62	86	76	63	88	78	64

September 1906.

Date.	Observatory reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
1 ...	80·9	75·3	% 74	81·9	77·1	% 79	93	85	% 72	87	83	% 84	89	81	% 71	90	80	% 65	92	82	% 65	94	82	% 60
2 ...	81·4	75·1	73	86·4	77·6	65									Sunday.									
3 ...	83·9	78·1	75	84·4	79·1	77	80	79	96	85	82	88	88	83	81	88	80	71	94	86	72	94	84	66
4 ...	80·9	77·6	85	85·9	78·6	70	85	80	80	87	83	84	89	81	71	90	80	65	92	82	65	94	82	60
5 ...	82·4	77·1	77	88·4	79·1	64	85	80	80	87	82	81	89	83	78	90	80	65	91	82	72	94	82	60
6 ...	81·4	78·1	85	80·9	78 1	87	88	82	77	89	84	81	90	85	81	90	80	65	92	82	65	92	82	65
7 ...	80·4	76·6	83	79·4	76·6	86	88	82	77	88	83	81	89	82	74	90	80	65	92	81	62	92	80	59
8 ...	81·1	76·1	78	83·1	76·6	73									Holiday.									
9 ...	81·4	74·1	69	83·9	76·1	68	83	78	80	85	79	77	88	78	64	88	78	64	90	78	59	93	79	54
10 ...	80·9	74·6	73	80·9	74·1	91	81	78	88	83	77	76	85	78	73	88	78	64	90	77	56	90	78	59
11 ...	79·4	74·6	78	82·4	76·1	73	81	79	92	82	79	88	88	80	71	88	78	64	90	78	59	93	80	57
12 ...	81·1	76·1	78	84·9	76·6	66	86	80	77	89	82	74	90	81	68	90	80	65	92	81	62	94	80	54
13 ...	79·4	74·1	76	83·9	75 6	66	83	80	88	83	80	88	89	82	74	90	78	59	91	78	56	93	80	57
14 ...	79·9	74·1	74	86·1	76·3	61	83	81	92	85	81	84	91	82	68	89	78	61	84	79	80	87	81	77
15 ...	78·9	75·6	85	84·9	77·1	68	88	77	61	87	81	77	91	80	62	90	80	65	92	80	59	95	82	58
16 ...	84·9	76·1	64	86·9	77·1	62	85	76	66	88	80	71	91	81	65	86	80	77	94	80	54	97	82	53
17 ...	85·4	76·1	63	89·9	76·3	50	83	76	73	87	78	67	91	79	59	...	...	...	93	79	54	94	81	57
18 ...	85·9	76·1	61	86·9	76·1	58									Amawashya Holiday.									
19 ...	86·4	75·1	57	89·9	75·3	47	83	77	76	87	79	70	90	80	65	88	80	71	92	80	59	92	80	59
20 ...	86 9	76·1	58	90·9	73·9	42	83	77	76	88	77	61	91	78	56	88	78	64	95	84	63	99	86	59
21 ...	86·4	77·1	63	88·9	74·8	48	85	76	66	88	77	61	91	78	56	80	75	79	96	79	76	96	79	76
22 ...	87·4	75·6	56	90·9	74·1	42	82	75	72	88	75	55	90	78	59	96	88	73	95	78	47	98	79	43
23 ...	86·4	73·1	50	89·9	72·1	38									Sunday.									
24 ...	85·9	75·1	58	88·9	74·1	47	79	74	79	80	76	88	88	78	64	...	...	...	92	78	54	91	80	62
25 ...	85·4	73·6	53	87·4	73·1	47	75	73	91	86	77	67	88	77	61	78	76	91	91	79	59	90	79	62
26 ...	74·4	73·1	93	76·4	74·1	88	86	77	67	83	78	80	83	78	80	88	78	64	87	79	70	90	80	65
27 ...	77·4	75·1	89	79·4	76·3	85									Dasera Holiday.									
28 ...	77·9	74·1	82	82·1	76·1	75	85	80	80	90	80	65	87	79	70	86	80	77	92	81	62	92	82	65
29 ...	82·4	76·1	73	85·9	77 1	65	83	77	76	86	80	77	90	80	65	86	78	70	94	80	62	97	82	53
30 ...	84·4	76·1	66	89·9	71·1	53	88	80	71	86	81	81	88	80	71	90	80	65	91	81	65	95	82	58

October 1906.

Date.	Observatory reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
1 ...	85·9	75·1	% 58	89·9	77·1	% 53	80	75	% 79	87	77	% 64	90	78	% 59	88	78	% 64	94	80	% 54	98	80	% 46
2 ...	85·4	75·1	59	91·1	73·1	39	79	78	96	81	80	96	89	79	64	90	78	59	92	81	62	94	81	57
3 ...	84·9	75·1	61	89·8	71·1	36	81	75	76	86	79	73	87	78	67	88	86	92	93	78	51	92	80	59
4 ...	84·9	74·6	59	85·1	73·1	54									Sunday.									
5 ...	82·9	74·6	65	88·9	73·1	44	79	74	79	86	77	67	88	79	67	86	78	70	93	78	51	94	80	54
6 ...	83·9	72·6	56	87·9	73·1	46	75	72	87	84	75	66	88	77	61	92	84	72	92	79	56	94	82	60
7 ...	84·9	74·1	58	90·9	73·8	41	80	71	64	87	75	57	88	77	61	75	74	95	86	78	70	84	78	77
8 ...	85·4	75·1	59	89·9	74·1	44	79	74	79	86	78	70	87	77	64	80	78	92	92	78	54	92	80	59
9 ...	86·6	74·8	55	88·9	71·1	38	79	73	75	86	77	67	88	78	64	86	76	63	92	78	54	92	80	59
10 ...	83·9	71·1	50	88·9	71·1	38	83	73	62	85	77	70	88	77	61	84	74	63	92	78	54	92	80	59
11 ...	83·9	73·3	57	86·9	72·1	45	78	72	75	85	76	66	86	77	67	82	74	69	91	78	56	92	80	59
12 ...	84·9	74·1	58	87·9	71·1	40	79	74	79	85	77	70	88	75	55	86	76	63	91	80	62	92	79	56
13 ...	83·9	72·1	54	89·9	71·6	37	78	71	71	85	76	66	87	75	57	84	74	63	91	80	62	90	78	59
14 ...	84·9	72·1	51	89·9	69·3	30	78	71	71	84	73	59	87	74	54	82	74	69	90	76	53	90	76	53
15 ...	84·9	73·1	54	90·4	69·3	30	76	71	78	86	76	63	88	74	52	86	76	63	90	78	59	88	76	58
16 ...	85·4	73·6	55	88·9	72·1	41	79	72	71	86	75	60	88	75	55	82	74	69	90	78	59	90	78	59
17 ...	84·9	73·1	54	90·1	67·1	25									Diwali Holiday.									
18 ...	83·9	70·1	47	89·9	69·6	32									Do.									
19 ...	84·4	69·1	42	89·9	68·6	29	78	69	63	85	71	50	85	70	47	76	68	66	81	75	76	80	72	71
20 ...	86·9	69·1	36	89·4	65·1	21	75	72	87	82	71	58	85	73	56	86	76	63	86	76	63	86	76	63
21 ...	84·4	69·1	42	88·9	68·1	30	76	66	59	83	70	52	84	72	56	74	67	70	89	74	49	86	75	60
22 ...	83·9	67·1	37	88·4	65·6	24	75	67	66	81	71	61	84	72	56	82	70	55	86	74	57	86	74	57
23 ...	84·9	68·6	40	88·9	66·1	24	76	65	55	85	68	41	84	70	49	72	67	80	78	71	71	77	71	74
24 ...	82·9	66·8	39	90·4	66·6	23																		
25 ...	82·9	67·6	41	89·4	64·6	20	74	65	62	80	71	64	83	71	55	82	68	48	86	74	57	88	72	46
26 ...	83·4	67·6	40	88·1	66·6	28	73	66	69	81	70	58	83	71	55	82	68	48	88	72	46	88	72	46
27 ...	81·9	66·1	39	84·9	66·1	32	70	65	77	81	70	58	81	72	65	80	67	51	83	72	59	82	72	62
28 ...	79·9	64·1	37	84·4	64·6	29									Sunday.									
29 ...	80·4	68·1	50	82·9	70·6	52	69	65	81	79	72	71	83	75	69	76	66	63	86	73	54	86	74	57
30 ...	80·4	70·6	59	82·9	73·1	60	77	70	71	83	76	73	85	77	70	82	72	62	89	76	55	91	77	53
31 ...	81·4	73·1	65	83·4	74·6	64	78	75	87	84	77	73	86	80	77	86	76	63	90	78	59	90	78	59

November 1906.

Date.	Observatory reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
1 ...	82·4	75·1	% 69	87·9	76·1	% 56	82	77	% 80	84	79	% 80	86	79	% 73	88	78	% 64	90	80	% 65	90	78	% 59
2 ...	78·4	74·1	80	80·9	73·1	67	77	71	74	85	79	77	88	79	67	86	79	73	92	80	59	93	78	51
3 ...	79·9	73·1	70	86·9	74·1	52									Holiday.									
4 ...	82·9	66·1	36	88·4	68·1	31	74	68	74	82	70	55	85	73	56	80	70	61	90	72	71	87	73	51
5 ...	80·9	66·1	42	88·4	65·0	23	74	66	66	80	71	64	81	74	72	84	78	77	88	72	46	88	70	40
6 ...	80·9	66·1	42	88·1	66·6	28	72	64	65	78	71	71	80	73	72	82	76	76	88	74	52	90	76	53
7 ...	80·5	63·1	33	87·4	63·8	21	73	64	61	78	69	63	79	72	71	84	72	56	87	74	54	84	72	56
8 ...	79·4	63·1	37	87·4	65·7	24	70	62	64	78	68	60	79	71	68	76	64	52	82	71	58	80	72	68
9 ...	79·4	64·6	41	87·9	66·4	27	70	63	68	79	70	64	79	70	64	77	65	52	84	72	56	82	72	62
10 ...	79·9	65·1	41	87·9	65·1	23	71	64	68	78	71	71	80	71	64	78	66	53	84	73	59	83	72	59
11 ...	79·4	65·1	42	87·4	65·6	26									Sunday.									
12 ...	82·4	66·1	40	88·6	68·1	31	70	66	81	78	71	71	80	71	64	78	60	33	84	72	56	86	72	51
13 ...	81·4	67·6	45	88·4	66·1	25	71	64	68	78	71	71	81	72	65	81	69	54	86	72	51	86	71	48
14 ...	81·9	67·1	42	87·9	67·1	29	69	64	76	78	72	75	80	71	64	78	68	60	85	73	56	85	72	53
15 ...	78·9	64·1	43	86·4	64·6	25	72	65	69	78	69	63	79	71	68	78	68	60	84	73	59	82	72	62
16 ...	78·4	63·1	38	85·4	64·6	27	71	63	64	77	68	63	80	71	64	76	66	59	82	72	62	82	71	58
17 ...	77·9	62·6	38	84·9	64·1	26	71	63	64	77	64	49	80	72	68	76	66	59	83	73	62	83	72	59
18 ...	78·4	64·1	41	83·9	63·6	27									Sunday.									
19 ...	78·9	64·1	40	82·4	66·1	38	67	61	71	76	68	66	80	70	61	72	64	65	82	71	58	82	72	62
20 ...	78·9	66·1	49	82·9	65·6	35	71	65	72	78	71	71	80	71	64	74	66	66	83	73	62	82	70	55
21 ...	78·9	67·6	53	81·4	65·1	37	71	65	72	79	70	64	81	70	58	76	66	59	85	72	53	83	71	55
22 ...	77·9	65·6	48	82·1	65·8	38	72	68	82	79	69	60	80	68	54	70	63	68	78	71	71	77	69	67
23 ...	78·4	64·6	43	83·4	65·6	34	72	64	65	78	70	67	79	72	71	76	66	59	83	73	62	83	72	59
24 ...	75·9	63·1	45	82·4	65·6	36	72	64	65	77	69	67	79	71	68	76	66	59	83	72	59	84	71	59
25 ...	74·9	61·1	40	79·9	61·1	28									Sunday.									
26 ...	74·9	61·1	40	81·4	62·1	28	64	56	60	66	74	52	77	68	63	83	69	49	82	72	62	82	70	55
27 ...	74·6	60·1	40	81·4	63·1	31	66	58	61	76	68	66	77	68	63	74	62	50	82	70	55	82	68	48
28 ...	73·9	60·1	40	81·9	62·6	28	66	59	66	75	67	66	77	69	67	82	69	52	81	69	54	82	70	55
29 ...	74·9	60·1	37	82·4	62·1	26	67	59	62	75	67	66	77	70	71	72	61	53	82	69	52	83	72	59
30 ...	73·9	59·2	36	80·9	63·1	32	72	62	57	75	66	62	77	69	67	74	62	50	81	69	54	83	67	43

December 1906.

Date.	Observatory reading.						New Spinning Mills.														
							Card Room.									Spinning Room.					
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
			%			%			%			%			%			%			%			%
1 ...	74·4	60·0	33	82·9	64·6	32	70	61	60	78	67	56	78	67	56	76	72	82	83	70	52	83	68	46
2 ...	75·9	61·0	38	82·9	63·3	27									Sunday.									
3 ...	74·9	61·0	40	82·9	62·6	26	74	64	58	77	69	67	78	69	63	72	62	57	82	70	55	83	70	52
4 ...	74·4	61·1	42	81·4	63·1	31	73	63	57	78	69	63	79	69	60	72	64	65	84	70	49	83	69	49
5 ...	74·6	60·6	40	79·9	61·8	30	74	67	70	77	68	63	78	69	63	76	64	52	81	70	58	81	68	51
6 ...	72·9	61·1	46	79·4	62·1	32	71	64	68	75	65	58	77	70	71	74	64	68	81	70	58	82	69	52
7 ...	72·9	60·1	43	79·9	61·1	28	70	64	72	75	68	70	77	68	63	74	64	68	80	69	57	82	68	48
8 ...	71·9	60·1	46	80·9	60·1	23	70	64	72	75	68	70	77	66	56	74	64	68	82	69	52	82	68	48
9 ...	72·9	60·1	43	80·9	62·1	29									Sunday.									
10 ...	72·9	60·0	43	81·9	62·9	30	68	62	71	77	69	67	78	69	63	74	62	50	81	68	51	83	69	49
11 ...	72·9	58·8	38	83·1	61·6	24	70	61	60	75	68	70	77	67	59	72	66	73	81	67	48	84	68	44
12 ...	73·4	60·1	41	81·9	63·6	32	74	66	66	76	67	63	78	68	60	74	66	66	80	68	54	83	68	46
13 ...	72·7	60·8	46	79·9	61·1	37	72	62	57	78	68	60	80	68	54	72	64	65	80	71	64	82	71	58
14 ...	73·9	62·6	50	80·1	63·1	34	72	62	57	78	68	60	80	68	54	73	66	69	80	71	64	81	71	61
15 ...	71·4	60·6	50	79·9	61·6	30	74	62	50	77	68	63	78	66	53	72	63	61	79	70	64	79	68	57
16 ...	69·9	59·0	48	80·7	63·1	32									Sunday.									
17 ...	71·9	60·0	46	81·7	62·1	26	71	61	56	78	66	52	78	68	60	71	62	60	79	61	34	79	66	50
18 ...	72·4	61·5	50	84·5	66·1	33	72	62	57	78	68	60	80	70	61	73	63	57	79	69	60	81	70	58
19 ...	74·4	68·1	70	81·2	69·6	52	80	68	54	82	74	69	82	74	69	78	70	67	84	76	69	84	76	69
20 ...	75·9	70·1	73	84·7	68·5	40	78	70	67	82	74	69	80	72	68	79	71	68	84	76	69	83	75	69
21 ...	76·5	68·6	65	79·0	68·6	57	78	70	67	84	74	63	84	74	63	77	70	71	83	75	69	83	75	69
22 ...	77·7	68·6	61	77·7	69·0	61	80	72	68	84	76	69	84	76	69	79	68	57	85	74	60	85	76	66
23 ...	76·5	67·6	61	83·0	68·6	45									Sunday.									
24 ...	74·9	64·6	54	85·5	69·8	42	78	68	60	82	72	62	84	73	59	77	69	67	84	76	69	84	73	59
25 ...	73·1	60·1	43	82·0	65·1	36	76	65	55	78	69	63	80	70	61	80	66	47	80	70	61	82	72	62
26 ...	68·1	53·1	30	79·6	56·6	16	69	58	51	73	63	57	75	64	55	72	66	73	80	66	47	80	66	47
27 ...	68·9	53·3	27	81·0	59·1	20	70	56	48	72	61	53	76	65	55	72	58	42	80	62	35	85	64	30
28 ...	71·9	58·0	38	65·9	63·1	84	74	61	47	75	65	58	78	72	75	74	60	43	80	62	35	83	72	59
29 ...	67·4	66·1	92	71·1	68·3	85	80	72	68	80	75	79	81	75	76	78	70	67	82	79	88	84	76	69
30 ...	67·9	66·2	90	74·3	69·1	74	86	76	63	85	78	73	83	76	73	80	74	75	82	75	72	84	74	63
31 ...	72·9	68·6	79	81·5	69·1	50	80	72	63	80	74	75	83	74	66	80	70	61	81	73	68	87	75	57

January 1907.

Date.	Observatory Reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
			%			%			%			%			%			%			%			%
1 ...	71·4	60·1	49	81·0	62·1	29									Holiday.									
2 ...	69·4	57·0	42	82·0	60·4	25	64	57	65	72	64	65	75	66	62	67	57	53	79	64	43	81	63	35
3 ...	69·6	56·0	36	82·1	59·5	18	70	60	55	72	63	61	75	65	58	74	62	50	79	62	37	82	63	33
4 ...	69·6	56·5	39	81·0	60·2	23	71	61	56	72	66	78	74	65	62	74	62	50	80	64	41	82	65	39
5 ...	69·4	57·5	44	81·0	61·0	26	70	64	72	73	67	73	75	65	58	72	62	57	81	67	48	83	66	40
6 ...	68·9	58·0	47	82·0	62·8	28									Sunday.									
7 ...	69·9	59·5	49	81·7	62·6	28	71	63	64	73	67	73	74	65	62	70	63	68	80	68	54	82	68	48
8 ...	72·6	62·1	52	82·0	65·6	38	73	65	65	76	70	74	79	69	60	76	62	45	83	71	55	84	70	49
9 ...	68·9	62·6	68	72·3	66·6	71	79	72	71	83	76	73	82	76	76	82	70	55	83	74	66	87	76	60
10 ...	68·9	66·1	85	79·0	67·6	54	77	70	71	81	74	72	81	73	68	78	70	67	84	75	66	83	72	59
11 ...	70·4	63·6	66	79·8	64·9	41	77	65	52	76	70	74	77	70	71	76	66	59	82	71	58	82	70	55
12 ...	71·4	61·6	54	79·5	62·8	34	72	64	65	76	67	63	75	68	70	74	64	58	82	69	52	82	68	48
13 ...	70·4	60·1	51	80·2	62·9	33	68	64	81	74	67	70	75	66	62	72	64	65	80	68	54	83	67	43
14 ...	68·6	57·6	47	76·8	60·1	31									Holiday.									
15 ...	66·9	55·5	43	79·2	60·5	27	69	61	63	71	65	72	74	66	66	72	60	49	80	66	29	81	64	38
16 ...	67·9	58·0	51	81·0	64·6	37	65	63	90	73	67	73	75	68	70	72	60	49	80	66	29	82	67	45
17 ...	69·9	58·0	44	80·1	62·6	32	73	64	61	74	67	70	75	68	70	74	62	50	80	68	54	80	67	51
18 ...	68·4	55·0	37	79·0	61·0	30	71	56	77	73	65	65	74	65	62	74	60	82	79	65	47	82	66	42
19 ...	67·9	54·5	35	81·0	61·5	27	69	59	55	72	64	65	75	65	58	72	60	49	80	64	41	82	64	36
20 ...	71·9	57·0	34	84·7	62·0	21									Sunday.									
21 ...	70·9	57·5	39	86 6	62·6	20	70	61	60	72	66	73	77	66	56	70	60	55	80	66	29	84	66	38
22 ...	73·9	59·0	36	88·9	64·1	19	69	66	86	75	69	74	78	67	56	76	61	41	83	68	46	86	68	39
23 ...	72·9	58·2	35	91·0	62·4	11	69	65	81	73	67	73	76	68	66	76	64	52	84	70	49	86	70	45
24 ...	72·7	59·0	39	90·1	63·1	15	73	62	53	75	69	74	79	66	50	76	62	45	75	66	62	82	70	55
25 ...	75·1	58·5	30	89·6	65·2	21									Mohamedan Holiday.									
26 ...	77·0	63·5	44	89·9	65·2	20	73	68	78	77	70	71	79	72	71	78	68	60	84	72	56	87	76	60
27 ...	80·6	64·9	41	91·6	66·1	21	78	70	67	82	73	65	80	72	68	78	70	67	87	72	48	88	72	46
28 ...	79·0	60·0	27	91·1	62·6	13	71	65	72	66	68	66	79	69	60	80	64	41	86	70	45	87	69	40
29 ...	75·5	60·0	35	90·6	64·6	19	72	64	65	75	68	70	76	70	74	78	64	46	84	69	46	86	70	45
30 ...	78·0	62·6	38	88·8	64·1	19	78	67	56	79	72	71	81	72	65	80	66	47	86	72	51	88	72	46
31 ...	77·0	60·0	31	83·5	61·5	22	77	65	52	77	68	63	78	70	67	80	66	47	85	68	41	84	68	44

February 1907.

Date.	Observatory reading.						New Spinning Mills.																	
							Card Room.									Spinning Room.								
	10 A.M.			4 P.M.			6.30 A.M.			12 NOON.			5 P.M.			6.30 A.M.			12 NOON.			5 P.M.		
	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.	D.	W.	H.
			%			%			%			%			%			%			%			%
1 ...	69·9	54·0	28	82·0	58·0	15	72	58	42	74	62	50	76	64	52	75	60	40	80	64	41	82	66	42
2 ...	70·9	56·0	33	83·5	66·1	33	72	62	57	74	64	58	78	69	63	75	62	47	81	66	44	82	70	55
3 ...	77·0	67·1	57	85·0	67·1	35									Sunday.									
4 ...	78·0	66·1	50	84·8	66·1	32	76	66	59	81	72	65	80	72	68	76	66	59	84	72	56	85	72	53
5 ...	78·0	63·1	39	82·2	65·1	33	82	70	55	80	70	61	81	71	61	81	69	54	86	72	51	87	74	54
6 ...	69·4	66·6	85	79·0	66·9	49	80	76	83	82	79	88	84	80	84	78	70	67	84	74	63	87	73	51
7 ...	72·6	61·0	46	80·5	64·1	36	76	70	74	79	66	50	81	68	51	76	68	66	82	68	48	87	70	42
8 ...	72·6	62·6	55	82·0	63·6	32	77	68	63	79	69	60	78	69	63	76	66	59	83	70	52	83	70	52
9 ...	73·4	61·0	45	85·5	67·1	34	76	65	55	78	69	63	81	72	65	76	66	59	83	68	80	84	72	56
10 ...	75·0	66·6	62	85·8	70·4	44	78	72	75	82	74	69	86	76	63	77	70	71	85	74	60	88	75	55
11 ...	71·9	67·6	78	85·0	69·9	43	84	73	59	86	76	63	88	80	71	82	73	65	88	77	61	90	75	50
12 ...	74·4	68·1	70	83·9	69·9	47									Holiday.									
13 ...	74·4	61·6	44	84·0	63·3	26	76	68	66	80	66	47	80	68	54	78	70	67	84	72	56	83	71	55
14 ...	77·9	61·6	49	81·5	63·6	33	76	66	59	78	68	60	79	68	57	78	67	56	84	70	49	84	73	59
15 ...	78·0	63·1	39	85·6	67·6	36	76	66	59	80	71	64	82	73	65	80	68	54	87	74	54	84	76	69
16 ...	79·0	66·6	49	88·8	69·6	34	80	70	61	83	73	62	83	74	66	80	70	61	88	75	55	88	79	67
17 ...	75·0	69·1	72	69·9	65·1	75									Sunday.									
18 ...	70·9	65·6	73	81·8	69·6	52	78	72	75	82	74	69	84	75	66	78	72	75	82	74	69	88	77	61
19 ...	65·4	63·1	87	76·0	68·7	67	78	71	71	84	76	69	83	74	66	73	70	86	82	73	65	85	75	63
20 ...	71·4	63·6	62	81·0	65·6	40	76	70	74	80	72	68	84	70	49	76	70	74	82	72	62	88	74	52
21 ...	70·9	60·5	51	82·5	62·6	27	72	62	57	79	66	50	84	68	44	74	66	66	82	69	52	88	72	46
22 ...	70·9	57·6	40	83·2	61·6	23	74	64	58	76	65	55	78	69	63	75	66	62	82	68	48	83	73	62
23 ...	75·0	60·5	39	88·9	64·8	21	74	64	58	77	67	59	75	66	62	82	69	52						
24 ...	75·0	62·6	46	91·1	67·1	23									Sunday.									
25 ...	82·0	65·6	38	92·6	66·1	19	75	66	62	80	71	64	84	72	56	77	67	59	88	73	49	87	74	54
26 ...	81·0	66·1	42	89·9	65·6	22	74	69	78	80	70	61	82	72	62	80	70	61	88	72	46	84	74	63
27 ...	81·0	64·6	37	90·1	67·8	27	74	67	70	79	71	68	78	68	60	84	73	59						
28 ...	79·0	62·6	35	90·6	65·1	19									Holiday.									

THE AHMEDABAD GINNING AND MANUFACTURING CO., LD., AHMEDABAD.

Hygrometer Readings.

Date.	Time.	Dry Bulb.	Wet Bulb.	Percentage of Humidity.	Grains per cubic foot of Air.	Remarks.
1st December 1905...	8 A.M.	76	68	63	6·1	
	11 A.M.	82	71	54	6·3	
	2.30 P.M.	87	74	49	6·6	
2nd do. ...	8 A.M.	79	68	53	5·6	
	11 A.M.	83	78	76	8·2	
	2 P.M.	88	79	61	8·6	
	4.30 P.M.	91	75	42	6·5	
3rd do. ...	8 A.M.	79	69	56	6·	
	11 A.M.	81	70	53	6·0	
	2 P.M.	85	72	49	6·2	
	4.30 P.M.	87	73	46	6·3	
4th do. ...	8 A.M.	79	68	53	5·6	
	4.30 P.M.	90	74	42	6·2	
5th do. ...	8 A.M.	79	68	53	5·6	
	2 P.M.	88	74	46	6·5	
	4 P.M.	90	75	44	6·6	
6th do. ...	9 A.M.	78	67	53	5·5	
	2 P.M.	86	71	52	6·8	
	4.30 P.M.	90	75	44	6·6	
7th do. ..	8 A.M.	78	68	56	5·8	
	2 P.M.	84	70	45	5·6	
	4.30 P.M.	88	73	43	6·1	
8th do. ...	4.30 P.M.	88	73	43	6·1	
9th do. ...	8 A.M.	73	64	—	—	
	2 P.M.	84	70	—	—	
11th do. ...	8 A.M.	74	65	58	5·3	
	2 P.M.	84	70	45	5·6	
	4.30 P.M.	86	72	46	6·1	
12th do. ...	8 A.M.	81	74	68	7·6	
	2 P.M.	83	70	48	5·8	
	4.30 P.M	85	74	55	7·0	
13th do. ...	8 A.M.	81	75	72	8·1	
	2 P.M.	84	74	57	7·1	
14th do. ...	8 A.M.	75	66	58	5·5	
	2 P.M.	85	77	64	8·3	
15th do. ...	8 A.M.	77	69	63	6·3	
	3 P.M.	89	74	43	6·4	
18th do. ...	8 A.M.	77	68	59	5·9	
19th do. ...	8 A.M.	80	71	59	6·6	
	2 P.M.	94	88	74	12·3	
23rd do. ...	8 A.M.	75	66	58	5·5	
28th do. ...	9 A.M.	80	74	71	7·8	
	2 P.M.	87	78	61	8·3	
29th do. ...	8 A.M.	81	75	72	8·1	
30th do. ...	8 A.M.	76	71	75	7·2	

Date.	Time.	Dry Bulb.	Wet Bulb.	Percentage of Humidity.	Grains per cubic foot of Air.	Remarks.
4th January 1906 ...	8 A.M.	71	65	69	5·7	
9th do. ...	3 P.M.	84	68	41	5·0	
10th do. ...	9.30 A.M.	85	76	61	7·8	
	2 P.M.	80	72	63	7·0	
11th do. ...	11 A.M.	75	65	...	...	
12th do. ...	7.30 A.M.	72	60	48	4·1	
	2 P.M.	82	70	51	5·9	
13th do. ...	7 A.M.	75	63	49	4·6	
	2 P.M.	82	69	48	5·6	
15th do. ...	7 A.M.	77	66	53	5·5	
	2 P.M.	82	69	48	5·6	
16th do. ...	7 A.M.	77	66	53	5·5	
	2 P.M.	82	70	51	5·9	
17th do. ...	7 A.M.	77	66	53	5·5	
18th do. ...	7 A.M.	78	67	53	5·5	
	2 P.M.	85	72	49	6·2	
19th do. ...	2 P.M.	85	74	55	7·0	
20th do. ...	7 A.M.	81	69	50	5·7	
	1 P.M.	86	70	40	5·4	
22nd do. ...	2 P.M.	80	69	53	5·8	
24th do. ...	2 P.M.	82	72	57	6·4	
25th do. ...	11 A.M.	78	67	53	5·5	
	2 P.M.	82	69	48	5·6	
26th do. ...	4 P.M.	86	71	43	5·7	
27th do. ...	11 A.M.	76	67	57	5·7	
29th do. ...	1.30 P.M.	76	61	40	3·9	
	4.30 P.M.	81	69	50	5·7	
30th do. ...	8 A.M.	74	58	37	3·4	
	2.30 P.M.	80	68	50	5·5	
6th February 1906 ...	9 A.M.	78	68	56	5·8	
	2 P.M.	84	71	48	6·0	
7th do. ...	2 P.M.	83	71	...	...	
9th do. ...	2 P.M.	85	77	64	8·3	
10th do. ...	8 A.M.	76	68	63	6·1	
	2 P.M.	81	71	56	6·4	
12th do. ...	12 A.M.	79	70	59	6·4	
	2 P.M.	81	71	56	6·4	
13th do. ...	2 P.M.	83	72	54	6·7	
15th do. ...	12 A.M.	82	75	68	7·9	
	2 P.M.	83	76	68	8·2	

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105082.

Date.	Time.	Dry Bulb.	Wet Bulb.	Percentage of Humidity.	Grains per cubic foot of Air.	Remarks.
16th February 1906 ...	2 P.M.	77	68	59	5·9	
17th do. ...	11 A.M.	76	70	71	6·8	
24th do. ...	4 P.M.	84	68	41	5·0	
2nd March 1906 ...	9 A.M.	78	61	37	3·8	
	4 P.M.	96	75	33	5·9	
3rd do. ...	9 A.M.	84	68	41	5·0	
	2 P.M.	94	74	35	5·7	
	4 P.M.	100	78	32	6·4	
4th do. ...	7 A.M.	82	68	45	5·2	
	2 P.M.	92	72	34	5·3	
5th do. ...	2 P.M.	95	77	39	6·7	
	5 P.M.	100	83	43	8·4	
7th do. ...	2 P.M.	92	70	30	4·8	
8th do. ...	7.30 A.M.	82	67	42	4·9	
	2 P.M.	93	73	34	5·5	
9th do. ...	7 A.M.	81	70	53	6·0	
10th do. ...	7 A.M.	82	72	57	6·7	
12th do. ...	7.30 A.M.	78	70	63	6·5	
13th do. ...	7 A.M.	80	69	53	5·8	
14th do. ...	7 A.M.	80	69	53	5·8	
15th do. ...	7 A.M.	84	72	51	6·3	
	2 P.M.	97	77	35	6·4	
	5 P.M.	99	77	32	6·2	
16th do. ...	7 A.M.	89	71	37	5·4	
	2 P.M.	101	81	37	7·5	
17th do. ...	7 A.M.	87	74	49	6·6	
	3 P.M.	98	78	36	6·7	
19th do. ...	7 A.M.	80	70	56	6·2	
	2 P.M.	95	78	41	7·1	
20th do. ...	7 A.M.	85	76	61	7·8	
	2 P.M.	91	79	53	8·1	
21st do. ...	7 A.M.	83	75	64	7·7	
22nd do. ...	7 A.M.	85	76	61	7·8	
	2 P.M.	97	81	44	4·8	
24th do. ...	2 P.M.	95	84	57	9·8	
27th do. ...	2 P.M.	92	78	47	7·5	
	6 P.M.	97	77	35	6·4	
28th do. ...	2 P.M.	92	77	45	7·1	
	4 P.M.	99	81	40	7·7	
29th do. ...	3.30 P.M.	101	82	39	7·9	
30th do. ...	9.30 A.M.	89	75	46	6·7	
	4.30 P.M.	98	80	40	7·4	

Date.	Time.	Dry Bulb.	Wet Bulb.	Percentage of Humidity.	Grains per cubic foot of Air.	Remarks.
2nd April 1906 ...	1.30 P.M.	97	77	35	6·4	
5th do. ...	7.30 P.M.	94	80	48	8·0	
7th do. ...	4 P.M.	101	80	35	7·1	
9th do. ..	7 A.M.	85	75	58	7·4	
	4 P.M.	100	77	30	6·1	
10th do. ...	7 A.M.	85	74	55	7·0	
	4 P.M.	98	77	34	6·3	
12th do. ...	2 P.M.	99	78	34	6·6	
21st do. ...	4 P.M.	107	85	35	8·4	
25th do. ...	4 P.M.	104	84	38	8·4	
28th June 1906 ...	7 A.M.	93	88	78	12·6	
29th do. ...	7 A.M.	94	89	78	13·0	
	1 P.M.	101	93	68	13·8	

Records of Temperature and Humidity in certain Spinning Mills in Lancashire.

Information collected by Sir H. Freer-Smith, Mr. Williams and Mr. Eraut in the Autumn of 1903.

Locality of Mill.	Counts.	Temperatures.					
		Indoor.			Outdoor.		
		Dry.	Wet.	Humidity.	Dry.	Wet.	Humidity.
Bury	24	90	71	36 per cent.	56	51	75 per cent.
Preston	30	83	67	39 „	58	53	71 „
„	32	96	73	30 „	61	55	64 „
„	33	85	69	40 „	61	55	64 „
Colne	26, 32, 40	83	66	38 „		Not stated.	
„	24—44	85	66	36 „		Not stated.	
Bury	34	79	68	53 „	56	51	75 per cent.
„	34	80	64	39 „	56	51	75 „
„	17 to 40	88	70	36 „	56	55	93 „
„	34	91	78	50 „	56	55	93 „
„	34	80	68	50 „	56	55	93 „
„	34	82	70	50 „	56	55	93 „
Bolton	36—40	86	70	40 „	66	59	64 „
Colne	24—44	85	67	35 „		Not stated.	
Preston	42	82	64	35 „	62	55	64 „
„	40	82	66	40 „	58	53	71 „
Colne	46	79	65	43 „		Not stated.	
„	46	80	67	47 „		Not stated.	
Bolton	50	85	71	45 „	66	59	64 „
„	56	92	75	42 „	63	57	67 „
„	56—64	89	75	47 „	63	57	67 „
„	56	97	78	37 „	63	57	67 „
„	56—64	91	74	40 „	63	57	67 „
Ancoats	60	90	75	44 „	68	65	63 „
Bolton	60	97	77	36 „	65	57	60 „
„	64	92	73	36 „	63	57	67 „
„	60—70	86	71	43 „	63	57	67 „
„	68	91	74	40 „	63	57	67 „
„	60—100	89	77	52 „	65	58	61 „
„	70—80	72	63	57 „	52	50	86 „
„	80	94	75	37 „	65	57	60 „
Preston	86	92	76	42 „	62	55	64 „
Bolton	90—98	87	73	46 „	63	57	67 „
„	84—120	87	72	42 „	52	50	86 „
„	84—120	82	67	42 „	52	50	86 „
„	100	90	77	50 „	64	60	77 „
„	100	88	73	43 „	64	60	77 „
„	108	84	70	44 „	64	60	77 „
Manchester	100—160	84	71	48 „	61	56	71 „
„	100—160	83	71	51 „	61	56	71 „
Bolton	134	86	78	46 „	64	60	77 „
Manchester	135	81	71	56 „	64	57	63 „
Bolton	152—160	87	74	49 „	66	59	64 „
„	152—160	84	72	51 „	66	59	64 „
Manchester	165—280	91	74	42 „	61	56	71 „
„	195—276	90	75	44 „	61	56	71 „
Ancoats	210	91	76	44 „	65	58	65 „

HUMID COTTON CLOTH FACTORIES—BLACKBURN C. C. F. DISTRICT.

Temperatures read at various times between January 1st and October 31st 1906.

55° to 59° F (inclusive)	were read in	2	sheds.
60° to 64° F (inclusive)	„ „	19	„
65° to 69° F (inclusive)	„ „	77	„
70° to 74° F (inclusive)	„ „	62	„
75° to 79° F (inclusive)	„ „	65	„
80° to 84° F (inclusive)	„ „	25	„
85° to 89° F (inclusive)	„ „	6	„
90° to 94° F (inclusive)	„ „	1	„

THE DAVID MILLS Co., Ld., BOMBAY.

Mill No. 2.

Time.	Ring Room. No Ventilator or Humidifier.	Mule Room. Hart's Ventilator and Humidifier working.	Outside Temperature in the shade.	Month and date.
10 A.M.	99°	95°	87°	25th April 1906.
4 P.M.	100°	97°	84°	
10 A.M.	100°	96°	83°	26th do.
4 P.M.	101°	97°	85°	
10 A.M.	100°	95°	87°	27th do.
4 P.M.	101°	96°	87°	
10 A.M.	101°	97°	87°	28th do.
4 P.M.	100°	98°	85°	
10 A.M.	100°	96°	85°	29th do.
4 P.M.	101°	97°	86°	
10 A.M.	96°	92°	85°	30th do.
4 P.M.	100°	96°	84°	
10 A.M.	100°	95°	84°	1st May 1906.
4 P.M.	95°	93°	85°	
10 A.M.	95°	94°	86°	3rd do.
4 P.M.	98°	96°	86°	
10 A.M.	100°	96°	86°	4th do.
4 P.M.	100°	96°	85°	
10 A.M.	95°	91°	89°	5th do.
4 P.M.	92°	92°	88°	
10 A.M.	91°	89°	90°	7th do.
4 P.M.	92°	90°	88°	
10 A.M.	96°	91°	87°	8th do.
4 P.M.	94°	92°	90°	
10 A.M.	95°	91°	87°	9th do.
4 P.M.	95°	93°	88°	
10 A.M.	96°	94°	88°	10th do.
4 P.M.	97°	95°	87°	
10 A.M.	97°	95°	88°	11th do.
4 P.M.	98°	97°	86°	
10 A.M.	93°	93°	89°	12th do.
4 P.M.	94°	94°	88°	
10 A.M.	91°	91°	87°	14th do.
4 P.M.	93°	93°	88°	
10 A.M.	95°	93°	87°	15th do.
4 P.M.	96°	95°	88°	
10 A.M.	95°	94°	88°	16th do.
4 P.M.	94°	95°	90°	
10 A.M.	96°	96°	87°	17th do.
4 P.M.	97°	97°	87°	

Time.	Ring Room. No Ventilator or Humidifier.	Mule Room. Hart's Ventilator and Humidifier working.	Outside Temperature in the shade.	Month and date.
10 A.M.	95°	95°	88°	18th May 1906.
4 P.M.	96°	97°	88°	
10 A.M.	97°	96°	86°	19th do.
4 P.M.	96°	97°	85°	
10 A.M.	98°	97°	87°	21st do.
4 P.M.	98°	97°	88°	
10 A.M.	99°	98°	87°	22nd do.
4 P.M.	98°	99°	87°	
10 A.M.	97°	98°	88°	23rd do.
4 P.M.	97°	99°	88°	
10 A.M.	96°	97°	87°	24th do.
4 P.M.	97°	97°	89°	
10 A.M.	95°	96°	87°	25th do.
4 P.M.	96°	96°	89°	
10 A.M.	94°	96°	90°	26th do.
4 P.M.	95°	97°	89°	
10 A.M.	92°	93°	89°	28th do.
4 P.M.	94°	94°	91°	
10 A.M.	94°	93°	89°	29th do.
4 P.M.	94°	95°	90°	
10 A.M.	94°	93°	91°	30th do.
4 P.M.	95°	95°	92°	
10 A.M.	94°	94°	90°	31st do.
4 P.M.	95°	95°	91°	
10 A.M.	93°	94°	90°	1st June 1906
4 P.M.	95°	94°	90°	
10 A.M.	95°	94°	91°	2nd do.
4 P.M.	96°	95°	90°	
10 A.M.	96°	95°	89°	4th do.
4 P.M.	95°	94°	89°	
10 A.M.	100°	98°	88°	6th do.
4 P.M.	100°	99°	88°	
10 A.M.	100°	99°	87°	7th do.
4 P.M.	101°	99°	88°	
10 A.M.	99°	98°	87°	8th do.
4 P.M.	96°	97°	90°	
10 A.M.	100°	97°	86°	9th do.
4 P.M.	95°	97°	92°	
10 A.M.	97°	95°	88°	11th do.
4 P.M.	96°	95°	88°	
10 A.M.	100°	98°	85°	12th do.
4 P.M.	96°	95°	86°	
10 A.M.	99°	98°	90°	13th do.
4 P.M.	97°	97°	89°	

Time.	Ring Room. No Ventilator or Humidifier.	Mule Room. Hart's Ventilator and Humidifier working.	Outside Temperature in the shade.	Month and date.
10 A.M.	101°	98°	87°	14th June 1906.
4 P.M.	95°	95°	83°	
10 A.M.	94°	96°	88°	15th do.
4 P.M.	95°	95°	87°	
10 A.M.	94°	96°	89°	16th do.
4 P.M.	97°	96°	91°	
10 A.M.	100°	96°	86°	18th do.
4 P.M.	100°	97°	89°	
10 A.M.	98°	95°	84°	19th do.
4 P.M.	98°	97°	87°	
10 A.M.	96°	93°	87°	20th do.
4 P.M.	96°	94°	90°	
10 A.M.	100°	97°	85°	21st do.
4 P.M.	96°	93°	85°	
10 A.M.	96°	95°	89°	22nd do.
4 P.M.	93°	93°	91°	
10 A.M.	98°	93°	88°	23rd do.
4 P.M.	95°	93°	89°	
10 A.M.	96°	93°	90°	25th do.
4 P.M.	96°	93°	91°	
10 A.M.	97°	92°	90°	26th do.
4 P.M.	95°	93°	92°	
10 A.M.	97°	93°	89°	27th do.
4 P.M.	95°	93°	93°	
10 A.M.	96°	94°	88°	28th do.
4 P.M.	96°	93°	90°	
10 A.M.	97°	94°	89°	30th do.
4 P.M.	97°	93°	98°	
10 A.M.	97°	94°	85°	1st July 1906.
4 P.M.	96°	92°	89°	
10 A.M.	96°	94°	85°	3rd do.
4 P.M.	98°	94°	90°	
10 A.M.	99°	93°	87°	4th do.
4 P.M.	96°	94°	88°	
10 A.M.	99°	95°	85°	5th do.
4 P.M.	98°	94°	84°	
10 A.M.	98°	95°	87°	6th do.
4 P.M.	95°	96°	86°	
10 A.M.	96°	94°	87°	7th do.
4 P.M.	95°	95°	90°	
10 A.M.	98°	92°	85°	9th do.
4 P.M.	97°	94°	87°	
10 A.M.	97°	95°	87°	10th do.
4 P.M.	96°	93°	90°	

Time.	Ring Room. No Ventilator or Humidifier.	Mule Room. Hart's Ventilator and Humidifier working.	Outside Temperature in the shade.	Month and date.
10 A.M.	95°	96°	87°	11th July 1906.
4 P.M.	96°	95°	89°	
10 A.M.	95°	96°	87°	12th do.
4 P.M.	95°	95°	89°	
10 A.M.	96°	95°	88°	13th do.
4 P.M.	98°	95°	88°	
10 A.M.	100°	97°	84°	14th do.
4 P.M.	99°	97°	83°	
10 A.M.	99°	95°	83°	16th do.
4 P.M.	97°	95°	82°	
10 A.M.	102°	98°	81°	17th do.
4 P.M.	103°	98°	82°	
10 A.M.	100°	94°	83°	20th do.
4 P.M.	98°	93°	81°	
10 A.M.	98°	94°	83°	21st do.
4 P.M.	97°	92°	84°	
10 A.M.	98°	92°	81°	23rd do.
4 P.M.	95°	93°	81°	
10 A.M.	98°	91°	81°	24th do.
4 P.M.	97°	93°	84°	
10 A.M.	99°	93°	82°	25th do.
4 P.M.	95°	94°	85°	
10 A.M.	96°	92°	85°	27th do.
4 P.M.	95°	92°	85°	
10 A.M.	95°	92°	83°	28th do.
4 P.M.	94°	92°	86°	
10 A.M.	96°	94°	86°	29th do.
4 P.M.	95°	95°	88°	
10 A.M.	98°	95°	86°	30th do.
4 P.M.	96°	95°	88°	
10 A.M.	99°	95°	86°	31st do.
4 P.M.	98°	96°	87°	
10 A.M.	99°	96°	86°	1st August 1906.
4 P.M.	97°	95°	87°	
10 A.M.	99°	93°	87°	2nd do.
4 P.M.	98°	93°	87°	
10 A.M.	100°	96°	85°	7th do.
4 P.M.	97°	95°	86°	
10 A.M.	97°	93°	86°	8th do.
4 P.M.	95°	94°	86°	
10 A.M.	98°	94°	87°	9th do.
4 P.M.	98°	94°	86°	
10 A.M.	99°	96°	86°	10th do.
4 P.M.	97°	95°	87°	

Time.	Ring Room. No Ventilator or Humidifier.	Mule Room. Hart's Ventilator and Humidifier Working.	Outside Temperature in the Shade.	Month and Date.
10 A.M.	98°	94°	84°	11th August 1906.
4 P.M.	97°	95°	87°	
10 A.M.	97°	94°	86°	13th do.
4 P.M.	96°	95°	86°	
10 A.M.	98°	95°	87°	14th do.
4 P.M.	97°	96°	88°	
10 A.M.	99°	96°	86°	15th do.
4 P.M.	98°	98°	87°	
10 A.M.	101°	97°	86°	16th do.
4 P.M.	102°	98°	87°	
10 A.M.	100°	98°	86°	17th do.
4 P.M.	102°	99°	86°	
10 A.M.	101°	98°	84°	18th do.
4 P.M.	103°	98°	86°	
10 A.M.	102°	97°	82°	20th do.
4 P.M.	100°	98°	85°	
10 A.M.	102°	99°	84°	21st do.
4 P.M.	102°	99°	84°	
10 A.M.	104°	98°	82°	22nd do.
4 P.M.	103°	99°	84°	
10 A.M.	98°	95°	85°	24th do.
4 P.M.	99°	95°	87°	
10 A.M.	100°	97°	82°	25th do.
4 P.M.	99°	98°	81°	
10 A.M.	100°	95°	80°	26th do.
4 P.M.	100°	94°	80°	
10 A.M.	98°	94°	83°	27th do.
4 P.M.	99°	94°	84°	
10 A.M.	99°	94°	81°	28th do.
4 P.M.	98°	95°	83°	
10 A.M.	98°	94°	85°	29th do.
4 P.M.	100°	95°	86°	
10 A.M.	97°	95°	85°	31st do.
4 P.M.	95°	95°	86°	
10 A.M.	97°	93°	86°	1st September 1906.
4 P.M.	98°	93°	86°	
10 A.M.	95°	94°	85°	3rd do.
4 P.M.	96°	94°	85°	
10 A.M.	96°	96°	85°	4th do.
4 P.M.	96°	95°	85°	
10 A.M.	98°	96°	85°	5th do.
4 P.M.	98°	96°	85°	
10 A.M.	98°	95°	85°	6th do.
4 P.M.	94°	93°	84°	

Time.	Ring Room. No Ventilator or Humidifier.	Mule Room. Hart's Ventilator and Humidifier Working.	Outside Temperature in the Shade.	Month and Date.
10 A.M.	95°	94°	83°	7th September 1906.
4 P.M.	97°	96°	82°	
10 A.M.	97°	95°	85°	8th do.
4 P.M.	96°	95°	86°	
10 A.M.	96°	93°	85°	10th do.
4 P.M.	95°	95°	86°	
10 A.M.	96°	94°	85°	11th do.
4 P.M.	95°	94°	84°	
10 A.M.	96°	94°	85°	12th do.
4 P.M.	97°	95°	84°	
10 A.M.	98°	93°	84°	13th do.
4 P.M.	93°	94°	85°	
10 A.M.	97°	93°	85°	14th do.
4 P.M.	95°	94°	86°	
10 A.M.	97°	95°	86°	15th do.
4 P.M.	95°	93°	86°	
10 A.M.	96°	96°	85°	16th do.
4 P.M.	96°	95°	86°	
10 A.M.	99°	97°	85°	17th do.
4 P.M.	96°	95°	86°	
10 A.M.	98°	93°	86°	19th do.
4 P.M.	96°	94°	86°	
10 A.M.	99°	97°	87°	20th do.
4 P.M.	101°	98°	87°	
10 A.M.	100°	98°	82°	21st do.
4 P.M.	96°	95°	84°	
10 A.M.	101°	97°	83°	22nd do.
4 P.M.	101°	97°	84°	
10 A.M.	99°	95°	83°	24th do.
4 P.M.	99°	97°	84°	
10 A.M.	101°	98°	84°	25th do.
4 P.M.	100°	98°	84°	
10 A.M.	98°	96°	85°	26th do.
4 P.M.	99°	96°	85°	
10 A.M.	99°	95°	86°	28th do.
4 P.M.	98°	96°	85°	
10 A.M.	98°	96°	85°	29th do.
4 P.M.	98°	96°	85°	
10 A.M.	98°	96°	86°	30th do.
4 P.M.	98°	95°	86°	
10 A.M.	98°	95°	86°	1st October 1906
4 P.M.	98°	95°	86°	
10 A.M.	99°	96°	85°	2nd do.
4 P.M.	98°	96°	86°	

Time.	Ring Room. No Ventilator or Humidifier.	Mule Room. Hart's Ventilator and Humidifier working.	Outside Temperature in the shade.	Month and Date.
10 A.M.	95°	95°	86°	3rd October 1906.
4 P.M.	98°	95°	86°	
10 A.M.	99°	96°	86°	4th do.
4 P.M.	98°	95°	86°	
10 A.M.	98°	95°	87°	5th do.
4 P.M.	98°	95°	87°	
10 A.M.	99°	96°	87°	6th do.
4 P.M.	98°	95°	87°	
10 A.M.	100°	96°	85°	8th do.
4 P.M.	98°	95°	86°	
10 A.M.	101°	96°	86°	9th do.
4 P.M.	100°	96°	86°	
10 A.M.	99°	98°	87°	10th do.
4 P.M.	98°	96°	87°	
10 A.M.	100°	98°	87°	11th do.
4 P.M.	102°	99°	87°	
10 A.M.	98°	97°	86°	12th do.
4 P.M.	99°	96°	87°	
10 A.M.	102°	97°	87°	13th do.
4 P.M.	103°	98°	88°	
10 A.M.	99°	96°	87°	14th do.
4 P.M.	100°	97°	87°	
10 A.M.	98°	96°	87°	15th do.
4 P.M.	102°	98°	86°	
10 A.M.	95°	95°	87°	16th do.
4 P.M.	102°	98°	88°	
10 A.M.	96°	93°	87°	20th do.
4 P.M.	100°	97°	86°	
10 A.M.	95°	94°	86°	21st do.
4 P.M.	101°	99°	87°	
10 A.M.	97°	96°	85°	22nd do.
4 P.M.	103°	100°	86°	
10 A.M.	93°	94°	85°	23rd do.
4 P.M.	101°	98°	86°	
10 A.M.	101°	96°	84°	24th do.
4 P.M.	105°	100°	86°	
10 A.M.	100°	97°	85°	25th do.
4 P.M.	104°	101°	87°	
10 A.M.	98°	97°	84°	26th do.
4 P.M.	102°	100°	86°	
10 A.M.	100°	97°	84°	27th do.
4 P.M.	104°	100°	86°	
10 A.M.	97°	95°	85°	29th do.
4 P.M.	102°	98°	86°	

Time.	Ring Room. No Ventilator or Humidifier.	Mule Room. Hart's Ventilator and Humidifier working.	Outside Temperature in the shade.	Month and Date.
10 A.M.	99°	95°	85°	30th October 1906.
4 P.M.	102°	99°	85°	
10 A.M.	99°	96°	84°	31st do.
4 P.M.	102°	98°	86°	
10 A.M.	101°	98°	85°	1st November 1906.
4 P.M.	102°	99°	86°	
10 A.M.	101°	98°	85°	2nd do.
4 P.M.	102°	100°	86°	
10 A.M.	100°	97°	85°	3rd do.
4 P.M.	102°	99°	86°	
10 A.M.	99°	97°	86°	5th do.
4 P.M.	101°	99°	85°	
10 A.M.	100°	97°	86°	6th do.
4 P.M.	103°	100°	85°	
10 A.M.	100°	97°	85°	7th do.
4 P.M.	103°	99°	86°	
10 A.M.	99°	98°	85°	8th do.
4 P.M.	102°	100°	86°	
10 A.M.	98°	96°	85°	9th do.
4 P.M.	99°	98°	86°	
10 A.M.	99°	96°	84°	10th do.
4 P.M.	102°	99°	85°	
10 A.M.	97°	95°	83°	12th do.
4 P.M.	101°	98°	85°	
10 A.M.	98°	96°	83°	13th do.
4 P.M.	103°	100°	85°	
10 A.M.	101°	97°	85°	14th do.
4 P.M.	105°	100°	86°	
10 A.M.	100°	96°	85°	15th do.
4 P.M.	104°	100°	85°	
10 A.M.	99°	97°	84°	16th do.
4 P.M.	105°	100°	85°	
10 A.M.	101°	97°	84°	17th do.
4 P.M.	102°	100°	86°	
10 A.M.	100°	96°	83°	19th do.
4 P.M.	102°	98°	85°	
10 A.M.	98°	96°	84°	20th do.
4 P.M.	103°	98°	84°	
10 A.M.	99°	97°	84°	21st do.
4 P.M.	103°	99°	85°	
10 A.M.	100°	96°	85°	22nd do.
4 P.M.	104°	98°	86°	
10 A.M.	102°	97°	84°	23rd do.
4 P.M.	104°	100°	86°	

Time.	Ring Room. No Ventilator or Humidifier.	Mule Room. Hart's Ventilator and Humidifier working.	Outside Temperature in the shade.	Month and Date.
10 A.M.	102°	98°	85°	24th November 1906.
4 P.M.	100°	99°	86°	
10 A.M.	99°	96°	85°	26th do.
4 P.M.	104°	100°	86°	
10 A.M.	101°	97°	82°	27th do.
4 P.M.	105°	101°	83°	
10 A.M.	100°	96°	84°	28th do.
4 P.M.	105°	100°	85°	
10 A.M.	100°	96°	80°	29th do.
4 P.M.	103°	99°	82°	
10 A.M.	100°	94°	79°	30th do.
4 P.M.	105°	99°	82°	
10 A.M.	100°	95°	79°	1st December 1906.
4 P.M.	97°	93°	80°	
10 A.M.	98°	95°	78°	3rd do.
4 P.M.	100°	98°	81°	
10 A.M.	98°	96°	80°	4th do.
4 P.M.	100°	97°	82°	
10 A.M.	98°	94°	78°	5th do.
4 P.M.	99°	96°	81°	
10 A.M.	99°	93°	83°	10th do.
4 P.M.	102°	97°	84°	
10 A.M.	98°	93°	92°	11th do.
4 P.M.	103°	96°	83°	
10 A.M.	99°	93°	78°	12th do.
4 P.M.	101°	96°	81°	
10 A.M.	99°	94°	79°	13th do.
4 P.M.	101°	97°	80°	
10 A.M.	98°	95°	79°	14th do.
4 P.M.	102°	99°	81°	
10 A.M.	98°	94°	78°	15th do.
4 P.M.	102°	97°	81°	
10 A.M.	99°	94°	78°	17th do.
4 P.M.	102°	97°	78°	
10 A.M.	100°	95°	78°	18th do.
4 P.M.	103°	98°	78°	
10 A.M.	100°	96°	76°	19th do.
4 P.M.	103°	98°	78°	
10 A.M.	100°	96°	76°	20th do.
4 P.M.	103°	99°	79°	
10 A.M.	101°	97°	78°	21st do.
4 P.M.	104°	100°	80°	
10 A.M.	101°	97°	80°	22nd do.
4 P.M.	104°	99°	80°	

Time.	Ring Room. No Ventilator or Humidifier.	Mule Room. Hart's Ventilator and Humidifier working.	Outside Temperature in the shade.	Month and Date.
10 A.M.	98°	95°	79°	24th December 1906.
4 P.M.	101°	97°	80°	
10 A.M.	100°	95°	79°	25th do.
4 P.M.	102°	98°	81°	
10 A.M.	100°	95°	80°	26th do.
4 P.M.	105°	98°	81°	
10 A.M.	100°	94°	78°	27th do.
4 P.M.	105°	98°	81°	
10 A.M.	101°	94°	78°	28th do.
4 P.M.	105°	98°	81°	
10 A.M.	101°	95°	79°	29th do.
4 P.M.	100°	98°	81°	
10 A.M.	101°	96°	80°	30th do.
4 P.M.	97°	98°	82°	
10 A.M.	102°	97°	80°	31st do.
4 P.M.	103°	100°	81°	
10 A.M.	102°	97°	82°	1st January 1907.
4 P.M.	103°	99°	84°	
10 A.M.	98°	95°	79°	4th do.
4 P.M.	101°	97°	81°	
10 A.M.	99°	94°	79°	5th do.
4 P.M.	103°	98°	82°	
10 A.M.	101°	95°	81°	6th do.
4 P.M.	103°	97°	82°	
10 A.M.	100°	95°	79°	7th do.
4 P.M.	101°	96°	81°	
10 A.M.	102°	96°	77°	8th do.
4 P.M.	102°	97°	78°	

APPENDIX B.

PARTICULARS SHOWING THE NUMBER OF WORKERS EMPLOYED ON DIFFERENT MACHINES IN MILLS IN INDIA AND GREAT BRITAIN.

THE MANOCKJEE PETIT MANUFACTURING COMPANY, LIMITED.

MILLS, TARDEO.

Bombay, 7th January 1907.

Average daily number of operatives employed ... { 3,495 male adults. / 610 female adults. / *118 male children. / 37 female children.

*Half timers working in shifts as required by the Factories Act.

Mixing Room and Blow Room Departments.

Mixing feeder.—One male on each machine.
One male on each exhaust opener.
Two males on each lap machine when cotton is fed by hand.
One male on each Scutcher lap machine.
One male on each finisher lap machine.
One male on each Willow machine.

Besides these hands, there are in this Department Lap Weighers, Dust Carriers, Dropping Carriers, Seed Cleaners, Sweepers, Spare Hands, Thread Extractors, Mixing Breakers, Cotton Carriers (in all 51 hands.)

Carding Engines.

One pair of Grinders to strip from 14 to 18 Cards.
One Card Tenter to mind 8 cards.
One Lap Carrier to supply Laps on 18 Carding Engines.
Ten persons to carry Fly, Waste, Sweeping, &c.
Three Drawing Tenters on each of the Drawings with 3 Heads, each of 5 to 8 deliveries.
One Slubbing Tenter on a Frame of 80 Spindles.
One Intermediate Frame Tenter on a Frame of 124 Spindles.
One Roving Frame Tenter on a Frame of 160 Spindles.
24 Sweepers, Waste Carriers, &c., to carry sweepings, &c., of the above frames.
131 Doffer Boys to Doff full bobbins of slubbing Intermediate and Roving Frames.
30 Persons as Roller Coverers, Fitters, Carpenters, Mochies, &c.

Ring Frames.

Two Side Boys to mind a frame of from 284 to 348 Spindles.
140 Followers to look after 218 Ring Frames.
170 Doffer Boys half timers.
160 Doffer Boys full timers to doff bobbins of 218 Frames.
167 Bobbin Carriers, Waste Carriers, Creelers, Oilers, and extra hands such as Rollers, Coverers, Fitters, Carpenters, Jobbers, Yarn Weighers, Mochies, Bindingvala, Cotton Pickers, &c., &c.

Reeling Department.

A pair of Reelers on each Reel, giving on an average 80 lbs. of yarn of 20's standard, or 120 lbs. of yarn of 10's standard per day.

Yarn Bundling Department.

This Department consists of 30 persons, bundling on an average 1,100 bundles, each of 10 lbs., per day.

Baling Department.

20 men baling on an average 10,500 lbs. of yarn and 19,500 lbs. of cloth per day.

Weaving Department.

A pair of Winders wind up 80 lbs. of yarn of 20's standard.
One Drum and Pirn Winder winds up 25 lbs. of coloured yarn of 20's standard.
One Warper and one Creeler on each Warping Machine.
One Sizer and one Back Sizer on every Sizing Machine.
One Beam Drawer with a Reacher draws in about 8,000 ends per day.
45 Extra Hands to carry Beams, Weft Bobbins, Rubbish, Waste, Finished Cloth, &c., to their respective destination.
One man attends two Looms at a time up to 68″ in width. Jacquard Looms and Looms over 68″ in width have one man on each of them.
This List does not include Headmen, Clerks, Jobbers, and other odd hands engaged in the Mill.

GANGES MANUFACTURING COMPANY, LIMITED.

Seebpore, 24th January 1907.

Particulars giving Number of Workers engaged at the different machines from Batching to Cloth Finishing.

Name of Machine.	Workers employed.		Remarks.
	Women.	Men.	
Jute softener Feed end	—	2	Daily Worker.
Do. Delivery do.	2	—	Do.
Breaker card Feed do.	2	—	Do.
Do. Delivery do.	1	—	Do.
Finisher Card Feed do.	1	—	Do.
Do. Delivery do.	1	—	Do.
First Drawing Frame Feed end	1	—	Do.
Do. do. Delivery do.	1	—	Do.
Second do. Feed do.	1	—	Do.
Do. do. Delivery do.	1	—	Do.
Roving Frame for Sacking Weft Feed end ...	2	—	Do.
Do. do. Delivery do. ...	—	1	Do.
Do. for Warps and Hessian Wefts Feed end	1	—	Do.
Do. do. Delivery End ...	—	1	Do.

Name of Machine.	Workers employed.	Remarks.
Doffing Roving Bobbins Sacking Weft	One man doffs 6 Bobbins of 8 Roving Frames.	Daily Worker.
Do. Bobbins Warps ...	One man doffs 6 Bobbins of 10 Roving Frames.	Do.
Spinning Frame Sacking Weft ...	One man tends 36 Spindles ...	Do.
Do. Sacking Warp and Hessian Wefts.	Do. 60 do. ...	Do.
Spinning Frame Hessian Warps ...	Do. 90 do. ...	Do.
Doffing Spinning Bobbins Sacking Weft quality.	One man doffs 6 Bobbins of 12 Spinning Frames.	Do.
Doffing Spinning Bobbins Warp and Hessian Weft quality.	One boy or girl doffs 6 Bobbing of 13 spinning Frames.	Do.
Cop Winding Machine Hessian Wefts	One man tends 16 spindles ...	Piece-Work.
Do. do. Sacking Weft	Do. 10 do. ...	Do.
Warp Winding Machine Bobbins ...	One woman tends 9 do. ...	Do.
Do Spools ...	One man tends 10 do. ...	Do.
Dry Beaming Machines	Five men at each machine ...	Daily Worker.
Dressing Machines	Do. do. ...	Do.
Loom	One man at each...	Piece-Work.
Calender Machine	Five men at each machine ...	Daily Worker.

In addition to foregoing, to cope with workers absenting themselves from work, which they often do, and to relieve workers for their half hour's rest, a number of spare workers equal to 12 per cent. of the total are employed.

THE GOUREPORE COMPANY, LIMITED, GOUREPORE, 24-PARGANAS.

List of Hands employed in various Departments in No. 2 Mill.

			Hands.	
1.		Selecters	54	
2.		Root Cutters	125	
3.	12	Softeners	132	
4.	24	Breakers	94	
5.	35	Finishers	205	
6.	28	1st Drawings	84	
7.	28	2nd Drawings	160	
8.	29	Rovings of 64 Spindles	192	
9.	85½	Pairs of Spinning Frames 80 Spindles aside.	289	spinners.
			580	shifters.
			180	Coolies, Sirdars and Oilers.
10.	13	Pairs of Roll-Winders	110	Winders.
			50	Bobbin boys, Coolies and Sirdars.
11.	14	Pairs of Cop-Winders	140	Winders.
			60	Bobbin boys, Coolies and Sirdars.
12.	16	Dressing Machine	120	
13.		Looms	840	
			100	Sirdars, Coolies, Oilers and Sweepers.
14.	2	Mangle	10	
15.	11	Calenders	50	
16.	9	Lapping Machines	32	
17.	10	Croppers	16	
18.	5	Hydraulic packing presses	40	
19.	4	Sets of pumps	9	

THE MUIR MILLS COMPANY, LIMITED.

Cawnpore, 5th March 1907.

Flat Cards. 6 hands per 10 cards.
Roller „ 3¾ „ „ „ „
Drawing Frames of 3 heads each—2·4 hands.
Shuttling Frames of 84 spindles—2 „
Intermediate Frames of 114 spindles 2 „
Roving Frames of 144 spindles—2·2 „
Mules 5·77 hand per 1,000 spindles.
Rings 17·28 „ „ „ „
40 bank reels—1·06 hands per reel.
Looms—285 1 hand each.
966 1 hand to two looms.

JOHNS' MILLS—AGRA.

Machine.	Description of Machine.	Number of Workmen.	Daily earnings, each	Remarks.
Cotton Opener ...	Double brighton ...	(4) Four	Four annas.	
Scutcher	Single Scutcher ...	(1) One to each ...	Five annas.	
Cards	Roller and clearers 40″	(9) Nine to each 20 cards.	See remark (*a*) ...	(*a*) Grinders get 4½ annas, Strippers 4 annas, Sweepers, can carriers and Lap carriers 3½ annas per day.
Drawing	3 Heads of 6 Deliveries	(1) One to each Head	Seven and a half annas.	
Slubbing	84 Spindles	(1) One	Nine annas.	
Intermediate ...	100 „	(1) One	Eight and a half annas.	
Rovers	128 „	(1) One	Six annas.	
Mules	636=1,272 Spindles ...	(8) Eight	See remarks (*b*) ...	(*b*) Menders get 1 rupee, 1st Class Piecers, 6 annas, 2nd Class Piecers, 4½ annas.
Reeling	40 Hanks	(1) One	Five and a half annas.	
				The absent list is about 17 per cent. daily.
				The Mills employ :—
				Agra S. & W. ... 585
				Johns S. W. ... 638
				Coronation S. W. ... 486
				Total ... 1,709

Particulars giving Number of Workers in Jute Mills engaged at the different Machines from Batching to Cloth Finishing, in Dundee.

Name of Machine.	Workers employed.	Remarks.
Jute Softener Feed end...	3 women and 1 man but sometimes 4 men.	
Do. Delivery end	3 men who take off and other 3 men carry away.	
Breaker Card Feed end...	2 women.	
Do. Delivery end	1 woman or 1 man.	
Finisher Card Feed end...	1 woman for 2 machines.	
Do. Delivery	1 woman for 2 machines.	
First Drawing Frame Feed end ...	1 woman.	
Do. do. Delivery end ...	1 woman.	
Second do. Feed end ...	1 woman.	
Do. do. Delivery end ...	1 woman.	
Roving Frame for Sacking Weft Feed end.	1 woman.	
Roving Frame for Sacking Weft Delivery end.	1 woman, sometimes 1 woman attends to 2 machines.	
Roving Frame for Warfs and Hessian Wefts Feed end.	1 woman.	
Roving Frame for Warfs and Hessian Wefts delivery.	1 woman, sometimes 1 woman attends to 2 machines.	
Doffing Roving Bobbins Sacking Weft	4 women and 4 boys to 7 machines.	
Doffing Roving Bobbins Warps ...	4 women and 4 boys to 7 machines.	
Spinning Frame Sacking Weft ...	1 spinner per frame of 60 spindles.	
Spinning Frame Sacking Warp and Hessian Wefts.	1 spinner per frame of 60 spindles.	
Spinning Frame Hessian Warps ...	1 spinner per frame of 60 spindles.	
Doffing Spinning Bobbins Sacking Weft quality.	20 workers for 15 frames of 60 spindles.	
Doffing Spinning Bobbins Warp and Hessian Weft quality.	20 workers for 24 frames of 60 spindles.	
Cop Winding Machine Hessian Wefts	6 women, 3 on each side.	
Cop Winding Machine Sacking Weft...	6 women, 3 on each side.	
Warp Winding Machine Bobbins ...	6 women, 3 on each side.	
Warp Winding Machine Spools ...	6 women, 3 on each side.	
Dry Beaming Machines...	1 man and 1 boy.	
Dressing Machines	1 man and 1 boy.	
Loom	1 woman attends to two looms except in the cases of sacking and Hessians over 60″ wide when she attends to 1 loom only.	
Calender Machine	4 men attend to 2 calendering machines.	

Cotton Spinning—Lancashire.

It is calculated that at a modern Lancashire Mill, 2½ to 3 persons are employed to every 1,000 self-acting Mule Spindles.

At such a Mill of 80,000 Spindles, the weekly output of Yarn, 50s counts American Cotton, would be 35,000 lbs. to 40,000 lbs.

This quantity would about supply a Weaving Shed of 1,000 looms, it being calculated that one loom works up about 35 lbs. Yarn per week for ordinary classes of cloth.

The machines and classes and numbers of workers employed, and the wages paid in such a Mill and Shed would average as follows :—

"D" denotes Day wage and "P" Piece wage.

Cotton and Mixing Room—					
2 Bale-breaking machines ..	2 men at 29 per week D, with the occasional assistance of the Wasteman.				
Blowing Room—					
2 Exhaust cotton opening Machines and 4 finishing Scutch Machines.	2 Men at 32 per week				D.
	1 Male y. p. 13 „				D.
Card Room—					
90 Flat Carding Engines ...	6 Men, Strippers and grinders at 28 to 32 per week...				D.
	1 Man Carder	35 to 38	„		D.
	4 Females y. p. and woman tenters	10/6	„		P.
10 Drawing Frames	10 Women	„ 20	„		P.
10 Slubbing „	5 „	„ 20	„		P.
	5 Female y. p. back	„ 8/6 to 10	„		P.
24 Intermediate „	12 Women	„ 21	„		P.
	6 Female y. p. back	„ 8/6 to 10	„		P.
46 Roving or "Jack" frames	23 Women	„ 21	„		P.
	8 Female y. p. back	„ 8/6 to 10	„		
	1 Bobbin and 1 yarn carrier	„ 10	„		D.
	1 Under Carder	„ 20 to 25	„		D.
	1 Frame man				... ...
Mule Rooms—					
36 Pairs of S. A. Mules of 1,120 spindles each.	36 Men, Minders at	35 to 45	„		P.
	36 Young men, Big Piecers at	17 to 20	„		D.
	36 Male y. p. and children little	11 to 14	„		D.
	1 Overlooker	55	„		D.
Warehouse	1 Clerk ... 4 Packers ... 1 Wasteman. — all men at about	20	„		D.
Other Departments	1 Engine Driver, 2 Firemen and 1 Mechanic and apprentice, 1 Oiler, 1 Joiner, 1 Roller Coverer and girl helper, 2 Clerks, 1 Inside Foreman, 1 Salesman and 1 Cashier and a Manager=14 at a total of about £23 per week.				

This makes a total of 218 persons employed.

Cotton Weaving.

		Per week.	
Preparatory Rooms	60 Female y. p. and women Winders at	15 to 20	Piece-work is the rule.
	11 Women, Beamers „	15 to 20	
	4 Men, Slashers and Sizers „	20 to 30	
	2 Women and female y. p., Drawers „	15 to 20	
	6 „ „ „ Twisters „	15 to 20	
Weaving shed, 2, 3 and 4 looms each, Learners, 1 loom.	300 men, male and female y. ps. and women, weavers with children ("Chittys") as learners	9 to 21	
Generally, one "Tackler" to 80 looms.	12 to 14 men, Overlookers or "Tacklers" Their wages are calculated proportionately to the earnings of the weavers under them	42	
Other Departments	Outlookers, Assistants, cloth pressers, Engine Driver, Fireman, Mechanic and helper, Inside Foreman and Manager—making a total of upwards of 400 persons employed, the usual scale being 2 to 2½ looms to each person, including preparatory processes.		

	Bleaching, Dyeing, Finishing and Making up.	Per week.	
Croft and Dyehouse	Bleachers, male y. ps.	10 to 20...	Day and piece-rates paid.
	„ Men	25 to 35...	
	Crofters and Stenterers, men ...	32 to 36...	
	Stenterers, Women	16 to 21...	
	Dyers, men	32 to 36...	
Warehouse	Makers y. p. Women...	16 to 25...	
	Stitchers, Ribboners, Plaiters and Hookers, Females y. ps. and women	11 to 16...	

The following tables are from a pamphlet entitled "Cotton Mill Labour in India," by a Mill Manager. The Committee have not been able to verify the statements in detail, but the author is known to them. He is generally considered a reliable authority, and it is thought that his tables should be published.

Table giving a Synoptical view of the Comparative Statements relating to Spinners in England and India.

——	England.	India.
1. Operatives per 1,000 spindles	4·2	28
2. Number of times Indian hands employed for a given unit to English.	1	6·6
3. Hands up to a spindle point	3·7	21
4. Number of times Indian hands to English upto spindle point...	1	5·67
5. Hands per 1,000 spindles in a Mule Mill without reelers ...	2·5	17
6. Number of times Indian hands to English for same	1	6·8
7. Hands per 1,000 spindles in a ring mill	6	32
8. Number of times Indian hands to English for same	1	5·3
9. Annual outturn of yarn per operative	lbs. 7,736	4,000
10. Do. per spindle	lbs. 32-6	112
11. Hourly production per spindle	oz. ·18	·43
12. Indian weight to English per hour per spindle	1	2·2
13. Production per 1,000 spindles per hour	lbs. 11·25	25·62
14. Average approximate counts...	40s.	20s.
15. Length of yarn turned out per hour	Yds. 378	430
16. Indian length to English	1	1·2
17. Working days in the year	300	309
18. Working weeks in the year	50	51½
19. Working hours per week	55½	80
20. Do. per year	2,775	4,120
21. Number of times Indian working hours to English	1	148
22. Monthly wages per operative	Rs. 70	13
23. Annual wages do.	Rs. 840	156
24. Payment per operative per hour	Pies 58	7·2
25. Do. per 1,000 spindles monthly	Rs. 294	364
26. Payment per 1,000 spindles per hour	Annas 20·3	16·8
27. Number of times English hourly wages to Indians per operative.	8	1

Table giving a Comparative Statement of the English and Indian Weavers.

——	England.	India.
1. Hands employed per loom	·43	1½
2. Length turned out per loom annually	Yds. 16,500	15,450
3. Do. do. weekly	Yds. 330	300
4. Do. do. hourly...	5·94	3·75
5. Proportion of English yards turned out to Indian hourly ...	1·58	1
6. Weight turned out per loom yearly...	lbs. 3,900	4,120
7. Do. do. weekly	78	80
8. Do. do. hourly...	1·4	1
9. Length turned out per operative per week...	Yds. 767	240
10. Proportion of length turned out per operative per week in England and India.	3·11	1
11. Weight per operative per week	lbs. 181	64
12. Proportion of weight per operative per week in England and India.	2·82	1
13. Monthly wages per operative...	Rs. 72	15

APPENDIX

JAPANESE TEXTILE FACTORIES.

A.—Classification of Workpeople by Age and Sex.

(The figures in the following Table are extracted from the "Financial and Economic Annual of Japan," 1906, issued by the Japanese Department of Finance.)

	Above 14 years of age.		Under 14 years of age.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
Raw Silk	7,730	117,409	160	9,753	7,890	127,162	135,052
Spinning	12,061	50,573	686	5,563	12,747	56,136	68,883
Weaving...	8,827	53,399	710	7,309	9,537	60,708	70,245
Knitting and Braiding ...	1,460	2,863	69	318	1,529	3,181	4,710
Total Textile ...	30,078	224,244	1,625	22,943	31,703	247,187	278,890

No accurate statement as to the age of the majority of operatives employed in any given kind of workshops can easily be elaborated, but broadly stated the greater part of operatives in filature factories are females of 16 to 22 years of age, the number of those from 22 to 30 coming next. Even the youngest are very rarely below 12 or 13. In general, females of from 14 to 20 constitute 50 per cent., those above 20 about 40 per cent., and those below 14 about 10 per cent., of the total number of operatives employed. In spinning mills also, girls below 14 constitute a little over 10 per cent. of the whole number, those from 14 to 20 about 50, and those older about 40 per cent., of whom the majority are of 20 to 25 years old. The female operatives in power-loom factories do not differ from those of spinning mills in regard to the age ratio, and those in hand-weaving workshops are similar to those in filatures.*

B.—Average Daily Wages.

(The following figures are extracted from the "Financial and Economic Annual of Japan," 1906, issued by the Japanese Department of Finance.)

		1902.	1903.	1904.
		Sen.	Sen.	Sen.
Raw Silk Factories...	Males over 14 years ...	...	...	29
	Females over 14 years ...	Not given		19
	Males under 14 years ...	...	...	11
	Females under 14 years	...	...	11
Silk Spinners ...	Females	20·3	19·5	21·0
Cotton Spinning Mill Workpeople.	Males	32·3	33·0	33·8
	Females	20·6	20·6	21·2
Weavers (material of all kinds).	Males	32·5	33·8	35·0
	Females	19·5	19·0	17·0

(*Sen* is approximately = ½d. 100 Sen = 1 Yen = 2s. 0½d.)

In "Japan at the beginning of the 20th Century," it is stated that, in 1900, in Cotton Mills 40 per cent. of the workpeople worked on time wage, and 60 per cent. on piecewage, which was growing in favour.

C.—"Working Hours (1900).

In cotton mills 12 hours are standard, both for day and night workers, they being made to take day and night work by turns every two days. In filatures the regulation hours are 13 to 14, in power-loom factories 12. But in hand-weaving workshops a great diversity prevails, the general rule being 12 to 15, according to the season, though in some rare cases the hours are as long as 16 or 17."

("Japan at the beginning of the 20th Century.")

* This is quoted from "Japan in the beginning of the 20th Century," published by the "Imperial Japanese Commission to the Louisiana Purchase Exhibition" in 1904.

APPENDIX D.

Statement showing the Mills inspected by the Factory Labour Committee appointed under the Resolution issued by the Government of India, Department of Commerce and Industry, Nos. 9974–9973–13 dated 17th December 1906.

1	2	3	4
Serial No.	Name of Work.	Date of Inspection.	What Work is carried on.
	Bombay.		
1	The Manokji Petit Mills	24th December 1906.	Cotton spinning and weaving.
2	Messrs. Geo. Gahagan and Company's Factory, Bellasis Road.	Do. ...	Iron foundry.
3	The New Great Eastern Spinning and Weaving Company's Mill, Parsee Road, Byculla.	26th December 1906.	Spinning and weaving.
4	Sassoon and Alliance Silk Mill	Do. ...	Silk weaving.
5	Bombay United Spinning and Weaving Company's Mill, Charni Road, Girgaum.	27th December 1906.	Spinning and weaving.
6	Girgaum Paper Mills	Do. ...	Preparation of paper.
7	Colaba Land and Mill Company's Mills, Colaba ...	28th December 1906.	Cotton spinning and weaving.
8	Jehangir Wadia Spinning Mill	Do. ...	Cotton spinning.
9	The Bombay Cotton Pressing and Cleaning Company	Do. ...	Cleaning and pressing of cotton and other textile fibres.
10	The Indian Mill, Ripon Road	30th December 1906.	Cotton spinning and weaving.
11	Jam Manufacturing Company's Mill at Soparibag ...	31st December 1906.	Do.
12	Kaisir-i-Hind Spinning and Weaving	Do. ...	Do.
13	The New Kaisir-i-Hind Mill, Gorupdeo Road ...	1st January 1907	Do.
14	Works of the Mahadeo Dharmsey Manufacturing Company, Limited, on Foras Road.	2nd January 1907	Do.
15	Horshead Manufacturing Company's Cotton Mill ...	Do. ...	Cotton spinning, cleaning and carding.
16	Works occupied by the David Mill Company ...	3rd January 1907	Spinning and weaving of cotton.
17	Karreembhoy Mill, Parel	Do. ...	Cotton spinning.
18	Crown Spinning and Weaving Company's Works, Elphinstone Road.	Do. ...	Cotton spinning and weaving.
19	Framji Petit Spinning and Weaving Company's Mills.	4th January 1907	Do.
20	The Akbar-i-Islam Manufacturing and Pressing Company, Limited.	Do. ...	Cleaning and pressing of wool, cotton, hemp and jute.
21	The Alliance Cotton Manufacturing Mill	6th January 1906	Cotton spinning and weaving.
22	Jivraj Balloo Spinning and Weaving Company Mill	Do. ...	Do.
23–24	David Mill Company's Mills (old and new)... ...	7th January 1907	Do.
25	Bombay Woollen Manufacturing Company's Works at Dadar.	8th January 1907	Wool spinning and weaving.
26	Sorab Hormasji Cotton Manufacturing Company's Mill.	Do. ...	Cotton spinning.
27	Wool Sorting Works occupied by Salih Mahomed Virji, Surti Street.	9th January 1907	Spinning and sorting of fleeces.
28	Wool Sorting Works of Bhow Anji Luchmidas Harabab.	Do. ...	Sorting of wool.
29	Carpet Hand-loom factory occupied by Ebrahim Haaron and several other similar places.	Do. ...	Hand-loom carpet making.
30	Cotton and Woollen Factory of Messrs. Hassanally Sulimanji.	Do. ...	Cotton and Woollen Factory.
31	Works of the Khatau Makanji Spinning and Weaving Company, Limited.	10th January 1907	Cotton spinning and weaving.
32	The Bombay United Spinning and Weaving Mill, Charni Road.	Do. ...	Do.

1	2	3	4
Serial No.	Name of Work.	Date of Inspection.	What Work is carried on.
	Bombay—continued.		
33	Three Wool Cleaning Godowns at Surti Street and Duncan Road.	11th January 1907	Cleaning of wool.
34	Jacob Sassoon Mill, Soparibag Road, Chinchpokli...	Do. ...	Cotton spinning and weaving.
34A	Works of the Khatav Makanji Spinning and Weaving Company.	22nd March 1907	Do.
35	The Victoria Midri Company, Gamdev Road ...	28th March 1907	Cotton mill.
36	The Jivraj Balloo Spinning and Weaving Company (a second time).	Do. ...	Cotton spinning and weaving.
	Ahmedabad.		
37	Guzrat Ginning and Manufacturing Company ...	15th January 1907	Ginning and manufacturing.
38	Ahmedabad Ginning, Spinning and Weaving Company.	Do. ...	Cotton ginning, spinning and weaving.
39	Works of the Saraspur Manufacturing Company, Limited.	Do. ...	Spinning and weaving.
40	Manikal Harilal Spinning and Weaving Company...	Do. ...	Do.
41	The Ahmedabad New Spinning and Manufacturing Company.	Do. ...	Do.
42	The Ahmedabad Manufacturing and Calico Printing Company.	16th January 1907	Weaving and calico printing.
43	Ahmedabad Sarungpur Spinning Mill	Do. ...	Spinning.
44	The Ahmedabad Advance Spinning and Weaving Company.	Do. ...	Spinning and weaving.
45	Ahmedabad Jubilee Spinning and Manufacturing Company.	Do. ...	Do.
46	Hitwardah Wardhak Spinning and Weaving Company.	Do. ...	Do.
	Bengal.		
47	Jute Works of the Ganges Manufacturing Company, Howrah.	23rd January 1907	Jute spinning and weaving.
48	The New Works of the Ganges Rope Company, Limited.	Do. ...	Rope making.
49	Hooghly Mills Company, Limited	24th January 1907	Jute spinning and weaving.
50	The Bengal Mills Company, Limited...	Do. ...	Cotton spinning and weaving.
51	Works occupied by the Golabaree Press Company ...	25th January 1907	First processes in the manufacture of jute and pressing.
52	Messrs. Geo. Hendersaw's Jute [illegible]anufactory at Barnagore.	Do. ...	Jute [illegible] and [illegible]
53	Birkmyre Brothers' Hastings Mill	26th January 1907	Do.
54	Gourepore Company's Works	29th January 1907	Do.
55	The Kankinara Jute Mills of Messrs. Jardine Skinner and Company.	Do. ...	Do.
56	Fort Gloster Jute Mills owned by Messrs. Kettlewell Bullen and Company, Limited.	30th January 1907	Do.
57–58	Bawreah Cotton Mills—two Mills—owned by Messrs. Kettlewell Bullen and Company, Limited.	Do.	Cotton spinning and weaving.
59	Soorah Jute Mills, Sealdah	31st January 1907	Jute spinning and weaving.
60	Baranagore Branch Mill, Sealdah	Do. ...	Preparation and weaving of jutes.

1	2	3	4
Serial No.	Name of Work.	Date of Inspection.	What Work is carried on.
	Madras.		
61	The Carnaatic Mills	6th February 1907	Spinning and weaving.
62	The Madras United Spinning and Weaving Company's Works.	7th February 1907	Spinning and weaving (no weaving is carried on at present).
63	The Buckingham Mills...	Do. ...	Spinning and weaving.
64-65	The New Madras Spinning and Weaving Mills of Messrs. Ramji Lachmidas (2 mills).	8th February 1907	Spinning and weaving.
66	The Central Barrel Press	Do. ...	Ginning and cleaning of textile raw materials.
	Bengal.		
67	Works of the Union Jute Company	13th February 1907.	Jute spinning and weaving.
68	Messrs. Guzdar and Company's Victoria Cotton Mills, Ghoosary.	14th February 1907.	Preparation and ring spinning of cotton.
69	Messrs. Andrew Yule's Central Jute Mill	Do. ...	Jute spinning and weaving.
70	Messrs. Horton and Company's Rope Works ...	15th February 1907.	Hemp spinning and manufacture of ropes.
71	Messrs. Andrew Yule Company's Ghoosary Cotton Mills.	Do. ...	Cotton spinning.
72	Naysmith's Patent Press Company	Do. ...	Initial processes in the manufacture of hemp and jute.
	Delhi.		
73	The Krishna Mills Company, Limited	18th February 1907.	Cotton spinning.
74	The Delhi Cotton and General Mills Company, Limited.	Do. ...	Ring and mule spinning and weaving (cotton).
75	The Ginning Mill belonging to the same Company as No. 74.	Do. ...	Ginning of cotton.
76	Goela Ginning Mill	19th February 1907.	Do.
77	The Jumna Mill owned by Saran and Company ...	Do. ...	Spinning.
78	The Victoria Cotton Ginning Mill	Do. ...	Cotton ginning.
79	The Hanuman and Mahadeo Spinning and Weaving Mill.	Do. ...	Spinning and weaving.
80	Ginning Mill belonging to the same Company No. 79.	Do. ...	Ginning.
81	West Patent Press	20th February 1907.	Cotton press.
[illegible]	Jumna Gen[illegible] Company	.. ...	Pr sing.
83	The Oil Soap and General Milling Company ...	Do. ...	Oil soap and general milling.
84	Lala Narain Das and Nursing Das Mill	Do. ...	Ginning mill.
	Agra.		
85	John's Coronation Spinning Mill	22nd February 1907.	Preparation of cotton and mule spinning.
86	The Agra Spinning and Weaving Mill	Do. ...	Spinning and weaving.

1	2	3	4
Serial No.	Name of Work.	Date of Inspection.	What Work is carried on.
	Agra—continued.		
87	The John Mill	22nd February 1907.	Spinning and weaving.
88	The Ginning Mill occupied by the same Company as No. 87.	Do. ...	Ginning.
89	Nay Smith's Ginning Mill	Do. ...	Ginning and pressing.
90	The Prince of Wales Spinning Mill	Do. ...	Spinning.
91	Messrs. Weyland and Company's Carpet Factory ...	Do. ...	Carpet making.
92	The Jumna Ginning and Pressing Company ...	23rd February 1907.	Ginning and pressing.
93	The Agra Ginning Company, Limited	Do. ...	Ginning.
94	The Mufassal Company, Limited	Do. ...	Ginning Press and Oil Mill.
95	Works owned by Hiralal and Chunilal	Do. ...	Ginning.
96	The Broach City Press Company, Limited	Do. ...	Pressing.
	Cawnpur.		
97–99	Works of the Muir Mills Company (3 Mills) ...	25th February 1907.	Cotton spinning, weaving, dyeing and bleaching.
100	The Cawnpur Mills and the Army Clothing Manufacturing Company's Works.	Do. ...	Sorting, carding, spinning, weaving, finishing and dyeing of wool.
101	The Works of the Victoria Mills Company, Limited.	26th February 1907.	Ring spinning, mule spinning and weaving.
102–104	The Works of the Elgin Mills Company (3 mills) ...	Do. ...	Do.
105–107	The Works of the Cawnpore Cotton Mills Company (3 mills).	27th February 1907.	Do.
108	Ginning Factory owned by Badri Das	Do. ...	Ginning.
109	Sri Ram Mahadeo Pershad's Mill	28th February 1907.	Do.
110	Naya Chand Baldeshai's Ginning Mill	Do. ...	Do.
111	Nazaram Das and Luchman Das Ginning Mill ...	Do. ...	Do.
	Nagpur.		
112–115	The Central India Spinning and Weaving Manufacturing Company's Works or Empress Mills (4 mills).	2nd March 1907...	Spinning and weaving, dyeing and bleaching.
116	The Central Provinces Spinning and Manufacturing Company's Works otherwise known as the Swadeshi Mill.	Do. ...	Ring spinning and weaving (cotton).
117	Volkarts Brothers' Agency	Do. ...	Cotton pressing and ginning.
118	Vinayak Ramchandra's Ginning Factory	3rd March 1907...	Ginning.
119	Thundiraj Atmaram Talute's Press and Ginning Factory.	Do. ...	Pressing and ginning.
120	Ramji Kanaa's Ginning Mill	Do. ...	Ginning.
121	Harvey and Sabapath Company, Limited	Do. ...	Ginning and pressing.

APPENDIX E.

List of persons examined—Millowners, millhands, and others.

Bombay.

Mr. J. D. F. Engel	...	... First Inspector of Factories for the Town and Island of Bombay.
* „ W. B. Chambers	...	... Acting Special Inspector of Factories, Bombay.
* „ J. Monteath, I.C.S.	...	... Assistant Collector and Chief Inspector of Factories, Bombay.
Capt. W. H. Houston, I.M.S.	...	... Personal Assistant to the Surgeon-General and Joint Medical Inspector of Factories.
*Dr. Godinho	...	... Deputy Health Officer.
Sir Sassoon David	...	... David Mills.
Mr. Bomanji Dinshaw Petit	...	... Maneckji Petit Manufacturing Company.
„ Dinshaw Pirozshaw Sethna	...	... Do. do.
„ Cowasjee Panday	...	... Emperor Edward Spinning Mills.
„ H. Gaythorne	...	... Kohinoor Mills.
„ S. Myers	...	... David and Standard Mills.
„ Morarjee Narotum	...	... Jivraj Baloo Spinning Manufacturing Company.
„ N. N. Wadia	...	... Textile Manufacturing Company, Limited.
„ Fazulbhoy Currimbhai Ebrahim		... Currimbhai Mills.
„ Mehralli M. Fakira	...	... Do.
Jobber Dewjee Ganujee	...	... Do.
Mr. N. B. Saklatwalla	...	... Swadeshi Mills.
Hon'ble Mr. V. D. Thackersey	...	... Hindustan Mills.
Mr. R. Wilson	...	... Do.
Two Jobbers	...	... Do.
Mr. Dwarkadas Dharamsey	...	... Bombay Cotton Manufacturing Company.
„ J. F. Bradbury	...	... Colaba Land and Mills Company.
„ S. A. Nathan	...	... E. D. Sassoon Mills.
„ R. H. Crabtree	...	... Do.
„ J. A. Wadia	...	... Currimbhai Mills.
„ J. Wallace	...	... Editor of the Indian Textile Journal.
*Ráo Bahádur Vithalrao Krishnaji Vandekar.		.....
*Mr. J. B. Leslie Rogers	...	... Secretary, Millowners' Association.
* „ N. G. Powar	...	... Assessment Department, Municipality.

*13 workers and several other men of the Maneckji Petit Mills.

*6 young persons of the New Great Eastern Spinning and Weaving Company's Mill.

*1 male weaver, 2 framemen, 2 girls and 2 boys of the Bombay United Spinning and Weaving Company's Mill, Girgaum.

*Several hands of the Kaisiri-i-Hind Spinning and Weaving Company's works.

*6 workers of the Mahadeo Dharmsey Manufacturing Company, Limited.

*12 young persons of the Currimbhai Mill, Parel.

*16 children of the Framji Petit Spinning and Weaving Company.

*A number of millhands were examined at their homes in the Govind Thali's Chawl and other adjoining chawls (about 200 hands). (*a*)

*A few young persons of the David Mills Company.

*Members of the Bombay Millowners' Association.

*23 children and young persons of the Sorab Hormasji Cotton Manufacturing Company's Mill.

*3 boys of the Jacob Sassoon Mill.

*2 workers of the Bombay United Spinning and Weaving Company's Mill, Girgaum.

Gunpat Balloo	...	... *Workers, Colaba Land and Mill Company's Mill.
Shaik Ahmed	...	...
Rama Dharma (female)	...	...
Bhau Harribhai	...	...
Maroti Manaji	...	...
Shivo Saccaram (female)	...	...
Mahomed Yakub	...	... *Workers of the Indian Mill.
Laxhman Ganoo	...	...
Abdul Rahman	...	...
Narayan Ganoo	...	...
A naikeen	...	... *Workers of the Jam Manufacturing Company.
Govind Ladoo	...	...
Laxman Balkrishna	...	...
Capt. J. H. McDonald, I.M.S.	...	... First Presidency Surgeon, Bombay.
*Major A. Street, I.M.S.	...	... Second do.
Col. J. P. Barry	...	... Third do.

*Managers of Mills.

A written statement was also submitted by Capt. McDonald and Col. Barry.

*See Note—page 78.

The evidence of some of these recorded and submitted to the Government of India.

Mr. G. W. Hatch, I.C.S., Collector of Bombay, submitted a note on certificates of children.

A written statement was submitted by Mr. Morarji Narotum representing the Jivraj Balloo Spinning and Weaving Company.

Groups of mill workers resident in the neighbourhood of Alibág and Pen. (This evidence was taken by the Mámlatdárs.)

Ahmedabad.

Mr. W. R. Divecka	...	... Jehangir Vakil Mill.
„ R. M. Patel	...	... Guzrat Cotton Spinning and Manufacturing.
„ C. Shorrock	...	... Shark's Spinning and Manufacturing Company.
G. Robinson	...	... Hittechu Spinning and Manufacturing Company.
Hari Bhai	...	... Workers, Ahmedabad Spinning and Weaving Company.
Viy Aju Gaiadalji	...	...
Sukdeo Badal	...	...
Goman Moolji	...	...

*Groups of spinners and weavers belonging to the same mill.

Mr. Dadabhai Nasservanjee Nanawatty	...	City Magistrate, Ahmedabad.
„ Sorabji Dinshaw	...	... Karakur Mill Owner.

A written statement was submitted by Major W. E. Jennings, M.D., D.P.H., I.M.S., Joint Inspector of Factories, Ahmedabad.

Mr. Mansoobhai Buggoobhai	...	... Ahmedabad Manufacturing and Calico Printing Company's Mill.
„ Chinubhai Madhaval	...	... A Millowner.
„ Chimanlal Nagindass	...	... Guzrat Spinning and Manufacturing Company, Limited, &c.
„ F. McCormack	...	... Second Inspector of Factories, Ahmedabad.
„ Lalbhai Dalpatbhai	...	... A Millowner.

*Managers of Mills.

*20 representative Millhands.

*6 half-time boys of the Ahmedabad Ginning, Spinning and Weaving Company.

*A large number of half-timers of the Ahmedabad-Sarangpur Spinning Mill.

Bengal.

Mr. A. Birkmyre	...	... Chairman, Indian Jute Mills Association.
„ J. B. Strain	...	... Member do.
Rai Bahadur Sita Nath Rai	...	... Bengal National Chamber of Commerce.
Babu Janaki Nath Rai	...	...
Lieut.-Col. W. G. Crawford, I.M.S.		... Medical Inspector and Civil Surgeon, Hooghly.
Lieut.-Col. F. J. Drury	...	... Civil Surgeon, Howrah.

A written statement submitted by Messrs. Birkmyre and Strain.

*Several children of the Hooghly Mills Company.

*Groups of Mechanics and Weavers of the Geo. Henderson's Jute Manufacturing at Baranagore.

*12 weavers of the Birkmyre Brothers' Hastings Jute Mill.

*Managers of Mills.

*The Committee interviewed Mr. Lamb about the Gourepore Mill, Mr. Hutchinson about the Hastings Jute Mill, Mr. Yule about the Ghoosery Cotton Mill.

Madras.

Capt. W. G. Richards, I.M.S.	...	... Medical Inspector of Factories for the Town of Madras.
Mr. H. T. Walters	...	... Special Inspector of Factories for the Town of Madras.

*Managers of all the Mills.

*40 half-timers of the works of the Madras United Spinning and Weaving Company, Limited.

Delhi.

Major D. M. Davidson, I.M.S.	...	... Civil Surgeon and Joint Inspecto Factories, Delhi.

*Managers of all the Mills.

Cawnpore.

Mr. S. H. Fremantle, I.C.S.	...	... Deputy Commissioner, Kherri, U.P.
„ S. M. Johnson	...	... The Muir Mills Company.
„ W. G. Bevis	...	... The Elgin Mills Company.
„ B. Briscoe	...	...
The Hon'ble Mr. McRobert	...	... Managing Director of the Cawnpur Mills, and the Army Clothing Manufacturing Works.

*Mill Managers.

Nagpur.

A written statement was submitted by the Manager of the Empress Mills, Nagpur.

*Mill Managers.

Note.—The evidence of persons marked with (*) has not been recorded in extenso, but in some cases it can be gathered from the Minute-Book of the Committee made over to the Government of India. The evidence or opinion of those not so marked has been forwarded to the Government of India.

APPENDIX F.

Letter from L. W. Hartley, Esq., the Presidency Inspector of Factories, Bombay, to the Chief Inspector of Factories, Bombay, No. 141/*F. I. of* 1906, *dated Bhusawal,* 11*th September* 1906.

I have the honour to forward herewith my Diary for the month ending 31st August last.

During the course of enquiries made at the Factories owned by Messrs. * * * * I learnt that a small fire had occurred in their Press Factory on the 3rd April. Cotton belonging to one of their constituents was being pressed and at about 6.30 p.m. loose cotton passing through the Opener machine caught fire (a very frequent occurrence). Out of 16 women employed immediately in front of the Opener, nine were burnt, four men were also burnt: six women and one man died from the injuries received. The outlets from the Press house were ample; had there been no enclosing walls the result would have been the same; the death of these people is due to gross indifference and carelessness on the part of the men who employed them. These ignorant people were permitted to sit immediately in front of the Opener Machine, in the midst of loose cotton with their faces entirely covered by their clothes (to prevent cotton fly and dust entering their eyes, nostrils and mouth), their clothes and bare portions of their bodies would collect a layer of cotton fly so that when the flames broke out from the machine they were at once enveloped as if they were so many bundles of cotton wool and the cloths over their faces not only prevented them from seeing the position of the outlets, but must have at once attracted the fire up to their eyes.

The Press owners contributed Rs. 169 towards the assistance of the sufferers, but the actual employers and owners of the cotton upon which the people were working at the time refused to contribute a single rupee. The cotton burnt was insured and Rs. 1,500 was paid over by the companies concerned.

There is at present no clause under the Act, by which the dangers attending the employment of women in Press houses can be regulated: the presence of women in front of Opener machines is as dangerous as if workers in gunpowder factories were permitted to smoke while at work. The practice was unknown a few years ago; keen competition requires more adulteration and mixing than was formerly the case; the women have been introduced to better mix up into one even grade the several qualities of cotton which the merchant may wish to press up into one lot. At this press the practice of placing women in front of the machine had only been started the day before the fire occurred.

Women should not be permitted to work in positions where at any moment they may be burnt to death or struck dead by a stone hurled from the beaters.

It is only in a small proportion of Press factories in the Presidency that women are allowed near or in front of the Openers. It is quite possible for as many as 50 women to be injured or lose their lives in a single fire on any one working day in several of the factories in the Presidency.

Plans of the building showing the position of the machine and the workers at the time of the fire will be submitted later.

APPENDIX G.

Statement showing the total Mortality and the Mortality from Phthisis and other Respiratory Diseases amongst the General and Factory Labourers in Bombay.

General Labourers.

Year.	Deaths from Phthisis.	Rate per 1,000 of Population without dependents. 171,852	Rate per 1,000 of Population with dependents 265,568	Deaths from other Respiratory Diseases.	Rate per 1,000 of Population without dependents 171.852	Rate per 1,000 of Population with dependents. 265,568	Deaths from all causes.	Rate per 1,000 of Population without dependents. 171,852	Rate per 1,000 of Population with dependents 265,568
1900 ...	1,001	5·82	3·76	1,587	9·23	5·97	12,094	70·37	45·54
1901 ...	1,124	6·54	4·23	845	4·91	3·17	10,645	61·94	40·08
1902 ...	607	3·53	2·28	670	3·89	2·52	7,249	42·18	27·29
1903 ...	343	1·99	1·29	521	3·03	1·96	6,797	39·55	29·35
1904 ...	310	1·80	1·16	858	4·99	3·23	6,078	35·36	22·88
1905 ...	432	2·51	1·25	841	4·89	3·16	7,269	42·29	27·37

Factory Labourers.

Year.	Deaths from Phthisis.	Rate per 1,000 of Population without dependents. 122,524	Rate per 1,000 of Population with dependents. 190,417	Deaths from other Respiratory Diseases,	Rate per 1,000 of Population without dependents 122,524	Rate per 1,000 of Population with dependents. 190,417	Deaths from all causes.	Rate per 1,000 of Population without dependents. 122,524	Rate per 1,000 of Population with dependents. 190,417
1900 ...	641	5·22	3·66	643	5·23	3·37	5,199	42·44	27·33
1901 ...	613	5·00	3·21	364	2·97	1·91	4,427	36·13	23·24
1902 ...	308	2·51	1·61	207	1·68	1·08	2,686	21·91	14·15
1903 ...	270	2·23	1·41	180	1·46	·94	3,057	24·95	16·05
1904 ...	358	2·92	1·88	329	2·68	1·72	2,347	19·16	12·22
1905 ...	401	3·27	2·10	201	1·62	1·05	3,172	25·88	16·65

APPENDIX H.

FORM A2.

_____ _____Factory.

Daily Muster Roll of Children under section 9.

Hours of work and intervals of rest allowed to the children :—

A (or first) Set work from_____until_____. A Set rest from_____until_____.

B (or second) Set work from_____until_____. B Set rest from_____until_____.

Occupier's signature _____

Note.—The particulars relating to Set A should be written up not later than 8 a.m. and the particulars relating to Set B should be written up not later than 3 p.m. each day.

Factory number.	Certificate number as shown in Form A1.	Name.	Set in which the child Works.					Year, month and date.																							Number of days employed.	Rate of wages.	Wages due.	Deductions (fines for failure).	Net amount to be paid.
1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	10	11	12	13	14
																																								Rs. a. p.	Rs. a. p.	Rs. a. p.

[NOTE.—Columns 4 to 8 are provided to allow for the child being changed from one set to another.]

LONDON:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE,
By DARLING & SON, Ltd., 34-40, Bacon Street, E.

1907.

00109082

Digitized with financial assistance from
Government of Maharashtra
on 13 March, 2020